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DESCRIPTIONS AND CLAIMS OF PATENTS

ISSUED IN THE YEAR 1865.

ILLUSTRATED WITH ENGRAVINGS.

No. 48,969.—SAMUEL MILLS, Bergen, N. J.—*Governor Valve for Steam Engine.*—July 25, 1865.—The object of this invention is to combine with steam engines an equipoised valve, which may be moved with facility, irrespective of the degree of steam pressure. Its novelty consists of a cylindrical valve tube, which slides over a cup, both having a series of openings around their circumference.

Claim.—The cylindrical valve tube B, sliding over the cup C, they both having a series of openings through on all of the sides, so as to form an equilibrium governor valve for steam engines, as herein described.

No. 48,970.—A. T. MOITH, Fishkill Landing, N. Y.—*Preparing Sponge for Stuffing, Padding*, &c.—July 25, 1865.—This invention consists in removing the impurities from the sponge, by means of weak acid, and then saturating it with a composition of equal parts of glycerine and water, the sponge being afterwards subjected to moderate pressure to remove the surplus composition.

Claim.—The method herein described of preparing sponge, for the purposes set forth.

No. 48,971.—W. H. MOORE, Salem, Mass.—*Machine for Boarding Leather.*—July 25, 1865.—This invention consists in the combination of a table, presser-board, and endless apron with its rollers, in an elevating spring, and in an open chamber underneath the table, said chamber being intended for holding the leather to be boarded.

Claim.—The combination and arrangement of the table A, the presser-board C, the endless apron H, and its operative rollers, the whole being applied together in manner and for the purpose specified.

Also, in combination with the table A, the presser C, the endless apron H, and its carrying and operating rollers, the open chamber or box B, for the purpose specified.

Also, the combination of the elevating spring L, or its equivalent, and the stirrup N with the presser C, the table A, the endless apron, and its operative rollers, the whole being substantially as specified.

No. 48,972.—E. A. MORE, St. Louis, Mo.—*Method of Protecting Caps of Oil Cans.*—July 25, 1865.—This invention consists of a metallic cap to shield the tops or corks of oil cans which are transported in cases made in the form of frusta of cones with one side cut out, and two legs with holes for wood screws, and so made that one of said screws may be drawn and the shields turned from over the cork on the other screw.

Claim.—A protection for the nozzles of oil cans, consisting of a metallic cap A closely fitting the nozzle and cork, one side of the cap being left open, so it may be slid laterally upon the cork. The cap A being furthermore provided with the lugs *a a*, which will be perforated with the holes *b b*, for fastening it to the box or can.

No. 48,973.—GEORGE NIMMO, Jersey City, N. J.—*Composition for Castings.*—July 25, 1865.—This invention consists in heating turnings or filings of iron to near welding heat. and placing therein a mould and filling the mould with melted brass.

Claim.—The compound metal formed in the manner specified.

No. 48,974.—BUTLER G. NOBLE, New York, N. Y.—*Adjustable Tuyere.*—July 25, 1865.—In this device the end of a pipe having a cone-shaped head, through a small opening in the apex of which issues a jet of steam, is made adjustable in the tapering opening or orifice of the tuyere, for the purpose of regulating the quantity of air relatively to that of the steam.

Claim.—The method of regulating the quantity of air relative to steam, by adjusting the steam jet or tuyere within the opening for the air, substantially as and for the purposes specified.

No. 48,975.—JOSEPH W. NORCROSS, Middletown, Conn.—*Rowlock.*—July 25, 1865.—The object of this invention is threefold: first, to construct a rowlock which will operate without or with but little noise, and so that the oar may be temporarily left in the same without danger of unshipping, thereby giving an opportunity to the person rowing to relieve himself by wiping the sweat from his brow, or in some other way; second, to make the rowlock so that the oar might swing parallel to the boat, or "trail;" third, to arrange it so that the same can be readily unshipped and taken home to prevent it from being stolen.

Claim.—First, placing the fulcrum on which the rowlock swivels outside the centre of its horns and above the gunwale, substantially in the manner and for the purpose set forth.

Second, the hook *c* and staple *d*, in combination with the flanged plate E, and with the bracket supporting the stanchion or fulcrum of the rowlock, or any other equivalent fastening, substantially as and for the purpose specified.

Third, the flange *e* with the open slot *f*, in combination with the rowlock C, constructed and operating substantially as and for the purpose set forth.

No. 48,976.—PELATIAH OSGOOD, Waterville, Me.—*Railway.*—July 25, 1865.—This device consists of an arrangement by which the frog of a railroad switch is dispensed with at the point usually occupied by the frog. There is a short section of rail pivoted in the middle and connected at each end with a pulley at the side of the track. This pulley is connected by a chain with a pulley at the switch, and when the switch is moved to suit a particular track, the movable section of rail is adjusted to suit the same track.

Claim.—The use of the movable or swinging rail operated with regard to the track *c c*, by means of the arms *p p*, drum *h*, bands *l l*, lever handle *f*, and connecting bars *e e*, substantially as described.

No. 48,977.—A. RALSTON, Carlisle, Penn.—*Flood Gate.*—July 25, 1865.—This invention consists in constructing a fence or gate that will yield to a current of water, and fall, to let the water pass over it, by means of a hinge and catch.

Claim.—First, the combination of the float F and arms E E′, and upright gate A A, in the manner and for the purpose within described.

Second, the movable block G, when combined with float F, and hook H, in a flood-gate, constructed in the manner and for the purpose herein described.

No. 48,978.—JOHN S. REED, Muncie, Ind.—*Mode of Switching Street Cars.*—July 25, 1865.—This invention consists in the employment of a device upon railroad cars which can be readily operated by the driver, whereby a train may be easily switched from one track to another, without the employment of the ordinary movable rail or frog, thereby obviating the necessity of the driver getting off at each switch.

Claim.—First, shifting or switching cars from one track to another, by pressure upon the outside of the rail or track, substantially as herein specified.

Second, the employment of the adjustable wheels C C, provided with the exterior flanges, arranged and operating substantially as and for the purposes shown and set forth.

Third, the combination of said wheels C C, the shaft D, and springs *d d*, arranged and operating as and for the purposes described.

Fourth, the combination of the wheels C C, axle D, springs *d d*, lever E, and arm F, arranged and operating substantially as shown and described.

No. 48,979.—FRANCIS C. RING, Portland, Me.—*Dough Kneader.*—July 25, 1865.—This invention consists of a square shaft or kneader, that operates upon the dough by a drawing motion upon the bottom of the trough, the pressure being regulated by springs.

Claim.—The employment and use of revolving kneader B with troughs, in combination with springs D and spring fastenings *d* and *d′*, substantially as and for the purpose set forth.

No. 48,980.—FRED RUDOLPH, New York, N. Y.—*Lock.*—July 25, 1865.—This invention relates to a lock in which the bolt, with one or more tumblers, and also the latch, are enclosed in a cylindrical case, which can be inserted in a door by boring in a hole large enough to take said case, and thereby the time requisite to make a mortise for the reception of the lock is saved. The latch is so arranged that it operates in a slot in the head of the bolt, or it may be made to work side by side with said bolt, the latch being made to work by a handle, and the bolt by a key in the usual manner.

Claim.—A lock, with a cylindrical case B containing a bolt D and one or more tumblers E, to be operated by a key K, which can be introduced from either side, substantially as and for the purpose set forth.

Also, the latch F in combination with bolt D and tubular or cylindrical case B, constructed and operating substantially as and for the purpose described.

No. 48,981.—SAMUEL SAUCERMAN, Freeport, Ill.—*Apple Corer and Slicer.*—July 25, 1865.—This implement consists of a tube or circular cutter made of tin or other suitable metal, slightly tapering from the cutting edge with four or more straight knives or wings projecting from its circumference, in combination with a plunger, which serves to guide the tubular cutter in coring and slicing the apple.

Claim.—The pointed plunger C in combination with the pointed tubular corer A, slicing knives B, and top plate D, constructed and operating as and for the purpose set forth.

No. 48,982.—THOMAS and JAMES M. SCANTLIN, Evansville, Ind.—*Evaporator.*—July 25, 1865.—This invention consists in constructing the body of the furnace in semicircular form and in making the pan in sections communicating with each other by means of passages. These passages are provided with grates and strainers.

Claim.—First, the constructing of the furnace A of semi-cylindrical taper form. substantially as and for the purpose set forth.

Second, having the evaporating pan E constructed in sections, or formed of a series of pans *b*, constructed, connected together and secured between the wooden sides *c c*, in the manner substantially as and for the purpose specified.

Third, the passages *e e*, made or placed in the wooden sides *c c*, and arranged with screens, gates *h*, substantially as set forth.

No. 48,983.—HENRY SEARL, Rochester, N. Y.—*Oil Well Pump.*—July 25, 1865.—This invention consists in the arrangement of pipes with a valve and seed bag or other suitable packing.

Claim.—The arrangement of the pipes G and *t* with the valve K and the seed bag F, or other suitable packing, substantially as herein described, not claiming separately either the seed bag, the valve, or the pipes, as I am aware that they are in common use for many purposes.

No. 48,984.—A. J. SETTLE, Schoharie, N. Y.—*Jack for Shaft Coupling.*—July 25, 1865.—This invention consists of a hand lever, the short arm of which is joined to jaws divided vertically, each part being furnished with a semicircular horizontal recess. The fulcrum of the lever is formed by a projection from the lower side near the jaws, and to this, by a knuckle joint, is attached a hook, the vertical grooved end of which turns inwardly and faces the vertical jaws, and between which and the grooved end of said hook the coupling of the shaft is clamped while being adjusted.

Claim.—A tool composed of two jaws A B, formed and connected substantially as herein described and for the purpose set forth.

No. 48,985.—S. D. SIMMONS, San Francisco, Cal.—*Bread Cutter.*—July 25, 1865.—This invention consists in attaching to a shaft a series of knife blades at proper distances apart, the said shaft turning in bearings and operated by a lever or handle. The knives are made to pass through slats in a board upon which the bread is placed. The knives are made to give a drawing cut which tends to sever the bread smoothly and without crumbling.

Claim.—The bread cutter described, the same consisting in attaching and arranging upon a suitable shaft a series of knife blades, of any desired number and size, and at proper distances apart, said shaft being provided with a suitable handle, and arranged and operating with regard to the fixed platform used for receiving the bread to be cut, substantially in the manner as hereinabove set forth.

No. 48,986.—MARVIN SMITH, New Haven, Conn.—*Fan Blower.*—July 25, 1865.—The fan wheel revolving vertically within its casing receives the air near its axis and ejects it at the lower periphery. The sides of the casing to the extent of the periphery of the wheel form a part of the wheel and revolve with it.

Claim.—The combination of the annular disks or casings B B, with the vanes or blades *b b* and *c*, when the whole is constructed, arranged, and fitted to operate with the parts C and D, substantially as herein described.

No. 48,987.—HENRY SOGGS, Columbus, Ohio.—*Churn.*—July 25, 1865.—This invention consists in forming a recessed chamber in the churn cover, with air holes opening into the churn, in combination with a hollow cap which sets over the recess in a manner to cover the chamber and allow the dash rod to pass through it, which recess and chamber together form a vent. In combination therewith operating the dash by means of a circular disk, upon which the churn tub is placed, the said disk being connected by two pinion shafts with a bottom stand having a toothed rim which meshes with the crank pinions, so that as the disk is revolved a vertical up and down motion will be communicated to the dash.

Claim.—First, a recess N, made in the churn cover, having air holes N′, in combination with the hollow cap C, for the purpose of an improved vent, substantially as described.

Second, the combination and arrangement of the revolving disk B, including the crank pinion C, and common churn placed thereon, and bottom stand A, including the cog rim *a′*, with the connecting rods I and cross-head H, for the purpose of operating a common dash churn, substantially as set forth.

No. 48,988.—E. F. PAGE, Brooklyn, N. Y.—*Harvester.*—July 25, 1865.—This invention consists in a mechanism for operating a cradle similar to the ordinary grain cradle, in such a manner as that the cradle will be in an upright position when cutting the grain and tilted forward in discharging the grain, somewhat after the manner of operating the ordinary cradle by hand. The arm or frame which supports and the shaft which drives the cradle are pointed to admit of the folding of the cradle over upon the main frame for transportation.

Claim.—First, the combination and arrangement of the arms M M′ of the cradle shaft or handle with the studs J J′ on the stationary shaft I, whereby the cradle is made to stand upright while cutting the grain and to tilt forward and deliver the cut grain, as set forth.

Second, the combination and arrangement of the shaft H, head I, studs J J′, sleeve F, and case G, or their equivalents, for the purpose of carrying and operating the cradle T, substantially as set forth.

Third, the jointed platform C, in combination with the jointed shaft *e*, substantially as set forth for the purpose described.

No. 48,989.—JOSEPH R. PALMENBERG, New York, N. Y. *Stand for Ladies' Cloaks.*—July 25, 1865.—This stand consists of a cast-iron foot, supported upon casters, and supporting an upright rod, upon which is fitted a revolving frame. This frame is strongly constructed of light materials, so as to combine the useful with the ornamental.

Claim.—The construction and arrangement of a revolving frame F, on an upright stand or rod B, in the manner and for the purpose substantially as described.

No. 48,990.—ISAAC H. PALMER, Lodi, Wis.—*Evaporator.*—July 25, 1865.—This invention consists of skimmers attached to an endless band, which moves upon rollers. Each skimmer is partially divided by a groove on its under surface, which straddles the partition of the evaporating pan. A scraper attached to the trough removes the scum from each skimmer as it arrives at a point above the trough. The operation of any skimmer may be suspended by means of a hook upon an endless chain.

Claim.—First, a revolving skimmer for removing the scum from the surface of the liquid.

Second, the combination of the skimmer with the belt or endless chain and the rollers C D E.

Third, the skimmer with its central divisional groove A, in combination with the pan divisions B, or wires, upon which it traverses.

Fourth, the screw in the said divisional groove, by which the depth of the skimming is regulated.

Fifth, the cleaner is so placed as to wipe out the contents of the skimmer in the manner described.

Sixth, the hook, in combination with the chain and skimmer, for retaining the latter in an inoperative position when required.

Seventh, the skimmer divided or otherwise hinged in a carriage or holder attached to the endless carrier belt or chain.

No. 48,991.—J. PALMER, Oriskany, N. Y.—*Combined Corn Planter and Cultivator.*—July 25, 1865.—In this machine the seed slide is worked by a small wheel and wrist-pin, operated by a lever. This lever is moved forward by several cogs upon the traction wheel, and backward by cogs upon a wheel upon the inner end of the hub. The frame is raised from the axle by means of a screw, and a sliding frame, notched at different heights, passes on between the frame and axle. The lever-moving seed slide also serves as a brake to stop the wheel.

Claim.—First, the movement of the feed bars G G in the hoppers, by means of three outwardly projecting cogs *k k k* on the main wheel, the three-tooth cog wheel J, notched lever I, and one-tooth cog wheel, the whole combined and operating substantially in the manner and for the purpose herein set forth.

Second, the lever I, in combination with the three-tooth cog wheel J, for breaking the revolution of the wheels or stopping the operation of the feed bars, substantially in the manner and for the purpose herein set forth.

Third, the tongue L, and lever M, in combination with the bracket plate *o*, joint *o*, fulcrum S, and guide N, when constructed and operating as and for the purpose herein set forth.

Fourth, the vertical hand screw K, cross plate *n*, bearing plates *a''*, in combination with the axle B, open slotted guides *n n'*, for the depression or elevation of the wheels, substantially in the manner and for the purpose herein set forth.

Fifth, the notched sliding frame *o'*, and guide N, in combination with the axle B, and foot lever M, substantially in the manner and for the purpose herein set forth.

No. 48,992.—DUBOIS D. PARMELEE, assignor to CHARLES S. RICHARDS, New York, N. Y.—*Manufacture of Hard Rubber or Vulcanite.*—July 25, 1865.—This invention consists in making hard rubber by first applying the Goodyear process for making what is known as soft rubber, and then treating this soft rubber with a mixture of chloride of sulphur and bisulphide of carbon, so as to harden it.

Claim.—The method herein described of producing hard rubber, or hard and flexible rubber, or hard flexible and elastic rubber, by subjecting native rubber first to the vulcanizing process according to the invention patented to Charles Goodyear, deceased, on the 15th day of June, 1844, and by their immersing the vulcanized rubber thus obtained in chloride of sulphur dissolved in bisulphide of carbon or other fit solvent of caoutchouc, substantially as set forth.

No. 48,993.—D. D. PARMELEE, assignor to C. S. RICHARDS, New York N. Y.—*Manufacture of Hard Rubber.*—July 25, 1865.—This invention consists in making soft rubber by what is sometimes known as the Parker process, and then washing and drying the product, and again subjecting it to the action of a second treatment with chloride of sulphur and bisulphide of carbon.

Claim.—First, the production of a hard or hard and flexible and elastic compound by the process herein described, the same consisting substantially in first converting India-rubber or like gums into a soft, flexible, and elastic product, resembling soft, vulcanized rubber, by immersion of rubber in a solution of proto-chloride of sulphur and bisulphide of carbon, in the manner described, and in converting the soft, flexible, and elastic product into a hard and flexible or hard flexible and elastic product, by immersing the product of the first immersion in a solution of proto-chloride of sulphur and bisulphide of carbon, substantially as herein set forth.

Second, as a new product or substance, a hard, or hard and flexible, or hard flexible and elastic compound, composed of India-rubber or other similar gum which has been subjected to two or more immersions in solutions of proto-chloride of sulphur and bisulphide of carbon, substantially as herein described.

Third, as a new manufacture or substance, colored hard, or colored hard and flexible or elastic compound, composed of rubber having incorporated with it colored pigments as described, and subjected to successive immersions in solutions, substantially as set forth.

No. 48,994.—GEORGE F. PARRY, Philadelphia, Penn.—*Device for Oil Wells.*—July 25, 1865.—The object of this invention is to aid the flow of petroleum oil from oil wells. Its novelty consists in the arrangement of the heater, the induction pipes, and the oil-well tube.

Claim.—The arrangement of the heater B, with the induction and eduction pipes C C′, and the oil-well tube A, substantially as described.

No. 48,995.—GEORGE G. PERCIVAL, Brooklyn, N. Y.—*Faucet.*—July 25, 1865.—The rotary plug of the faucet has a small horizontal arm proceeding from the upper part thereof. Beneath this arm a split-ring collar is held in position by a set screw passing through ears. Opposite these ears an ascending part sustains a horizontal set screw. The arm first named strikes this end of this set screw, and the rotation of this plug is thus limited.

Claim.—The combination with a faucet of the split ring *f*, arm *d*, and screw pin *p*, substantially as shown and described.

No. 48,996.—GEORGE G. PERCIVAL, Brooklyn, N. Y.—*Tumblers, Pitchers, &c.*—July 25, 1865.—This invention consists in attaching to tumblers, glasses, pitchers, and other similar articles, so as to extend around the lower edge thereof, a rim of India-rubber or similar material, for the purpose of preventing the article from being broken by being heavily placed upon a table.

Claim.—As a new article of manufacture the attachment of a rim made of India-rubber, or any of its elastic compounds, to and upon the bottom edges of tumblers, glasses, pitchers, and other articles of crockery or glassware, substantially as and for the purposes specified.

No. 48,997.—WILLIAM PERRIN, Andover, Mass.—*Ox Yoke.*—July 25, 1865.—This invention consists in an adjustable ring carrier applied to the yoke on its under side, at the centre of its length, when the said ring carrier is adjusted by means of a screw or screws passing into or through the same, or bearing against its ends, and arranged in suitable supports or bearings so as to move the ring carrier, and thereby lengthen or shorten one end of the yoke.

Claim.—An adjustable ring carrier applied to an ox yoke, when the said ring carrier is adjusted by means of a screw or screws, arranged substantially as herein specified, and for the purpose set forth.

No. 48,998.—RALPH PLATT, Florence, Ind.—*Forge Tuyere.*—July 25, 1865.—This invention consists in arranging the elongated air opening of the tuyere, so that it may be rotated in either direction as the nature of the work requires.

Claim.—So constructing the tuyere that the longitudinal axis of the elongated orifice may be rotated in either direction, as and for the purpose specified.

No. 48,999.—J. N. POMEROY, Utica, N. Y.—*Ore Crusher.*—July 25, 1865.—This invention consists in the use of stampers or hammers, and in the peculiar arrangement of the screw, by which means the fine or pulverized ore is separated from the coarse as fast as the ore is crushed.

Claim.—First, the hopper G, perforated circumferentially or on its sides, and applied to an ore crusher for the purpose of separating the finer quartz from the coarser, during the crushing process, substantially as herein described.

Second, the jacket H, in combination with the screen J, and crusher D C, substantially as and for the purpose described.

Third, the combination of the diffusing screen J, and crusher C D, substantially as and for the purpose described.

Fourth, screening pulverized ore upon two or more surfaces, one of which concentrates while the other diffuses the ore during the crushing process, substantially as herein described.

No. 49,000.—W. R. POMEROY, Millersburg, Ohio.—*Guide to Key-holes.*—July 25, 1865.—This device may be attached either to the door or to the lock case, its purpose being simply to guide the key into the lock, and it consists of a projecting flange which, starting from the edge of the key-hole, flares outwardly, somewhat analogous to the sides of a funnel.

Claim.—The flange F, or other similar device, when arranged and applied in the manner and for the purpose described.

No. 49,001.—MOSES POND, Boston, Mass.—*Cooking Range.*—July 25, 1865.—On each side in this range are closets for warming plates, cooked food, &c. The ovens are situated above the boilers, and heat is communicated to them by suitable flues. The boiler space is provided with a movable curved mantle, its edge resting on movable plates composed of two or more pieces hinged together, which slide out and in like the mantle. The course of the

products of combustion is circuitous about the boilers, warming chambers, flue spaces, and vens.

Claim.—First, the combination and arrangement of the flues and connecting passages thereof about each of the ovens, the same consisting of the flue G, the passage *g*, the flues H H, the passages *h h*, the flue I, the diving flue K, and the passage *i*, the whole being to cause the smoke and heat to pass in contact with the oven, in the manner as described.

Second, the improved arrangement of each of the steam escape openings *b*, and its discharge flue *o*, with the boiler chamber F, and the oven and its flues.

Third, the damper *q*, adjustable on its rod, substantially as described, in combination with the shoulder *y*, or its equivalent, on such rod, the whole being arranged so as to operate in manner and for the purpose as specified.

Fourth, the arrangement of the closets D D, the fireplace, the flue C, the flue X, the ovens E E, and the recess or chamber F.

Fifth, the arrangement of the movable mantle *v*, with the ovens E E, and the boiler chamber F, the same being as and for the purpose set forth.

Sixth, the above described mode of making each of the extensions *w*2, of the side plates *w w*, of the boiler chamber, viz., in sections or parts *a*2 *a*2, hinged together and hinged to the front part of the range, for the purpose described.

No. 49,002.—VAN RENSSELAER POWELL, Troy, N. Y.—*Manufacture of Friction Matches.*—July 25, 1865.—This invention consists in coating the back ends of the match blocks in the usual manner, and then splitting it into match strips, the cross splitting as in the ordinary method being omitted. The blocks thus prepared are dipped in the sulphur and capped, and the strips are afterwards separated by hand or machinery. The strips are then cut up into matches.

Claim.—The manner of coating and capping friction matches with the ignitible compound while said matches are still in the form of strips, substantially in the manner herein described, whereby a material saving in the quantity required of said compound is effected, as set forth

Also, the manner of separating said match strips from each other, and dividing the same into loose matches, by the means substantially as herein specified, whereby a saving in labor is gained.

Also, the combined use of the within described improved modes of manufacturing friction matches, as constituting an improved manner of manufacturing the same, substantially as herein described.

No. 49,003.—A. D. STANSBURY, Cross Creek Township, West Va.—*Sheep Rack.*—July 25, 1865.—In this invention the bottom board is pivoted upon one side of the centre, so that by turning the same the trough can be emptied of its contents. Upon each side of the trough is hinged a rack. These racks open outward for the introduction of the hay, and can be closed upon it and secured by means of a button, which embraces both ends of the rack.

Claim.—First, a combined sheep rack and trough, so constructed and arranged that its racks can be thrown down, as represented in Fig. 4, and also raised and brought together and fastened, as represented in Fig. 3, substantially as and for the purpose set forth.

Second, so constructing and pivoting the bottom of a combined sheep rack and trough that it will open and close, substantially as described.

Third, the combination of the hinged racks, which adjoin when closed, with the fastening boards D, substantially as described.

No. 49,004.—JOHN STEPHENSON, New York, N. Y.—*Running Gear for Railway Cars.*—July 25, 1865.—This invention consists in the peculiar mode of bracing the running gear of railway cars. The engraving and claim show clearly the devices used and their application.

Claim.—First, the longitudinal stays or connecting rods B, when attached to the upper sides or above the feet of the pedestals, and secured in position by the pintle bolts *a*, substantially as and for the purpose set forth.

Second, the diagonal stays C applied or attached to the pedestal and the framework of the truck or car, substantially as and for the purpose specified.

Third, the combination of the longitudinal stays or connecting rods B and diagonal stays C, applied in the manner substantially as and for the purpose set forth.

No. 49,005.—JOHN STEPHENSON, New York, N. Y.—*Axle Box.*—July 25, 1865.—The object of this invention is to afford greater facilities for repairs of an axle box for railroad cars. The claim explains the nature of the invention.

Claim.—First, the combination of the yielding or self-adjusting collar B with the chamber A, at the rear of the axle box and the axle C, the collar being fitted on and controlled by the axle, and all arranged substantially as and for the purpose set forth.

Second, the method of confining the bearing in the box in order to provide for the facility of its extraction, as set forth.

No. 49,006.—JAMES H. STEVENS, East Durham, N. Y.—*Unloading Attachment for Wagons.*—July 25, 1865.—This invention consists in having an extra bottom in the wagon, which is composed of pointed strips and forms an apron which is bound around a roller under the wagon, and as it moves it carries along the load to the tail of the wagon.

Claim.—First, the rails j^* j^*, either with or without a bottom i^*, for the body A, for the purpose of serving as a support for the apron B, and still admit of a free movement of the latter, substantially as and for the purpose specified.

Second, the flexible apron B in combination with the two shafts C D, all arranged and applied to the wagon body, to operate substantially as and for the purpose set forth.

Third, the rollers I J arranged in relation with the flexible apron B, and used in connection with the shafts C D, for the purpose specified.

Fourth, the supplemental roller K, either with or without the straps L L, arranged substantially as and for the purpose set forth.

No. 49,007.—J. STIMSON, Baldwinsville, Mass.—*Clothes Bracket.*—July 25, 1865.—This invention consists of a bracket to be attached to the side of a room having folding or swinging arms connected together by cross-rods for hanging clothes, the frame being provided with a series of rods suitably connected together and attached to the bracket.

Claim.—The folding and removable frame B *c*, supported by lugs *g g* from the brackets A A, as and for the purpose described.

No. 49,008.—GARLAND B. ST. JOHN, Kalamazoo, Mich.—*Cultivator.*—July 25, 1865.—This invention consists in the combination and arrangement of two plough beams, connected together by means of cross-pieces at their front ends, and to their rear ends are pivoted handles. Attached to the lower ends of said handles are wheels placed upon short axles passing through the lower ends of metal blocks and supporting the beams. In connection therewith are segmental racks, and spring rods having their lower ends bent so as to catch within the notches of said racks for the purpose of adjusting the ploughs in any desired position.

Claim.—The two plough beams A A connected together as shown, in connection with the handles G G pivoted to the beams, and having the wheels I attached to them, and the segment racks J and catches K, all arranged substantially as and for the purpose herein set forth.

No. 49,009.—BENJ. S. STOKES, Manchester, N. H.—*Crucible for Metallic Baths.*—July 25, 1865.—This invention consists of two metallic vessels placed one within the other, having a space between the two which is filled with sand.

Claim.—The construction, substantially as herein described, of a crucible of two parts *a* and *b*, with space *c* between *a* and *b* filled with sand, or its equivalent, for the uses and purposes herein set forth.

No. 49,010.—JAMES STRATTON, Brooklyn, N. Y.—*Gas Burner Chimney.*—July 25, 1865.—This invention consists of an upper part which is oval and of equal diameter with a lower part also oval, and joined thereto with a compression at the junction and flaring wider at the bottom, which rests on a frame about midway of the elevation of the flame.

Claim.—A glass chimney for gas burners composed of an upper part *f* of oval or elliptical form in its transverse or horizontal section, and of equal diameter throughout, and a lower conical or flaring part *g*, also of oval or elliptical form in its transverse section, and applied to the burner so as to have a relative position with the flame or jet, substantially as and for the purpose specified.

No. 49,011.—G. S. TIFFANY, Palmyra, Mich.—*Board Measure.*—July 25, 1865.—This invention consists in the making of one or more series of perforations in concentric circles in the transverse wheel, each of which acts in the capacity of a bevel wheel, in combination with a pinion and a screw shaft which moves the index along the scale.

Claim.—First, making one or more series of perforations in concentric circles in the transverse wheel *c*, each of which acts in the capacity of a bevel wheel, or placing a wheel upon the same shaft equivalent to said perforations, in combination with the pinion F, screw D, index and scale, when the same are arranged to operate substantially as and for the purpose herein set forth.

Second, the combination of thumb-piece L, strap *n*, nut *m*, and point *o*, when the same are arranged to operate as and for the purpose herein specified.

No. 49,012.—HENRY A. TILDEN, New Lebanon, N. Y.—*Manufacture of Sugar from Corn.*—July 25, 1865.—This invention consists in mixing the corn meal water in a tub which is provided with an agitator, and then passing it to the boiler, which is an air-tight wooden vessel having a steam coil at its bottom. Sulphuric acid is added to the mixture of corn and water in the boiler, and the whole is boiled until the corn becomes converted into sugar. The mixture is forced up through a pipe into the vessel, where it is neutralized, and the coloring matter precipitated with alumina. It is then passed through a strainer, and from thence to the clarifying vessels; after which it is boiled with alumina in a vessel. It is then filtered through bone-black, and passes into a receiver, and from thence it is drawn into the evaporating vessel, where it is concentrated. The sirup is then collected in the receiver.

Claim.—Treating the entire grain of maize and other cereals so as to produce sirup, substantially as herein described.

No. 49,013.—H. A. TILDEN, New Lebanon, N. Y.—*Filter.*—July 25, 1865.—This invention consists in constructing a filter with a perforated diaphragm for sustaining the charcoal and a pipe for supplying the material to be filtered below said diaphragm. A series of such filters may be arranged in such a manner by means of connecting pipes, that the material to be filtered may be passed through two or more of the filters, and that one filter may be excluded from the filtering operation for cleaning without checking the general operation.

Claim.—First, a series of filtering vessels, each formed substantially as specified, and connected from the upper part of one to the lower part of the next, for effecting successive filtrations or displacements, as set forth.

Second, a series of filtering vessels, in which the adjacent vessels are connected, in the manner specified, so that one of them can be excluded from the filtering operation, for the purposes specified.

No. 49,014.—J. F. TUDOR, Philadelphia, Penn.—*Mode of Sharpening Saws.*—July 25, 1865.—This invention consists in mounting an emery wheel of proper shape upon a mandrel, and having in front an adjustable rut, upon which the saw to be ground can be held against the wheel at any angle required by the shape of the teeth.

Claim.—The combination of the devices, constructed and arranged substantially as herein described, for sharpening the teeth of saws.

No. 49,015.—VIVIAN VANCE, Havana, N. Y.—*Medicine for Horses.*—July 25, 1865.—This invention consists of a mixture of green tea, ginger, yellow soap, foxglove, and water.

Claim.—The above-described remedy, prepared and compounded in the manner and for the purpose substantially as described.

No. 49,016.—E. A. WALKER, Nashville, Tenn.—*Gauge-cock, &c.*—July 25, 1865.—The object of this invention is the introduction of a gauge-cock for steam and water which will not become impaired by use, but continue to keep in good working order, by means of pressure on the valves while turning it, and thus grinding it into its seat. Its novelty consists in the use of a conical valve and its arrangement with reference to the cock and opening in the valve.

Claim.—The conical valve D, constructed and operating substantially as herein specified.

No. 49,017.—E. D. WALKER, Millbury, Mass.—*Staging for Building Purposes.*—July 25, 1865.—This invention consists in the construction of straddle pieces and braces, to constitute a staging for shingling roofs, so that no necessity will arise for uniting the staging to the roof board.

Claim.—The mode of construction of the staging, with its straddle pieces, brackets, standards, &c., as within described.

No. 49,018.—CHARLES WELLS and H. BARTH, Cincinnati, Ohio.—*Machine for Cutting Paper.*—July 25, 1865.—This machine consists of a knife or cutter arranged to work in slides in each side of the frame. Connected with the slides are cams so arranged that in moving down the bar they bring down the ends a short distance alternately, thus giving a sawing or oscillating motion to the knife during its cutting stroke. The cams are put in motion by a shaft, the knife being thrown up quickly after each downward cut.

Claim.—Giving an oscillating motion to the knife C during the process of cutting by bringing its ends down one end at a time alternately, whether the same is combined with the sliding motion as given by the link or not, or whether the motion is given by cams or any other equivalent means, substantially as herein described, so that the knife descends one end at a time in the direction of its cutting edge, for the purpose set forth.

No. 49,019.—BENJAMIN WIELAND, Orangeville, N. Y.—*Batter Cup or Dish.*—July 25, 1865.—This invention consists in providing a cup with a valve at the side having a spring connected with it; also a rod and lever, by which the contents of the cup or dish may be allowed to discharge itself at the will of the operator or holder of the cup or dish, without wasting its contents. The bottom of the cup is inclined, so that the contents may more readily flow to the valve.

Claim.—The arrangement, in connection with the cup or vessel A, having an inclined bottom *a*, of the spout B, valve C, spring E, lever F, and rod H, constructed and operated substantially in the manner and for the purposes herein specified.

No. 49,020.—L. N. WILCOX, Pittsburg, Penn.—*Method of Separating the Products of Distillation of Hydrocarbons.*—July 25, 1865.—This invention consists of a still provided with a worm, on the under side of which are several depressions. These depressions are connected with pipes, one of which leads back to the still, and the other into suitable receivers. The depressions are provided with traps to prevent any vapor from entering the pipes.

Claim.—Separating benzole from illuminating oils, in distilling hydrocarbon oils and other substances, by means of separate pipes D, arranged with traps C, leading off from different parts of the condenser, substantially as and for the purpose above described.

No. 49,021.—CHARLES WILLARD, Newtown, Penn.—*Hay-spreading Machine.*—July 25, 1865.—This invention consists in connecting the crank arms to the fork bars in such a manner that the said fork bars may have a vertical motion, thereby preventing the breaking of the fork when the machine passes over uneven ground.

Claim.—The application to the cranks F of the springs I and slides C, fitted in slots or openings *b* in the fork bars D, to operate in the manner substantially as and for the purpose set forth.

No. 49,022.—R. C. WRIGHT, Meadville, Penn.—*Railway Journal Box.*—July 25, 1865.—This invention consists in adjusting the cover of an axle box in such a way that by means of a spring in the rear of the cover and a slot holding the same the cover is pressed forward to make a close and tight joint, excluding dust and easily removed or opened.

Claim.—First, the application to railway axle journal boxes of a cover or cap arranged with a spring, in the manner shown or in any equivalent way, to operate as set forth.

Second, the opening *b* in the upper part of the cover or cap A, the rod or belt B, and the spring C, arranged substantially as and for the purpose specified.

Third, the lip *a* having an inclined inner surface, in combination with the lower bevelled surface *a** of the cover or cap A and a spring C, for the purpose specified.

No. 49,023.—JACOB ZUCKERMAN, New York, N. Y.—*Sewing Machine.*—July 25, 1865.—This is a lock-stitch machine. The disk bobbin oscillates with a pointed bobbin case. The oscillating frame carries a vibrating arm, which operates a slide that turns up and holds flat under the table the loop of needle thread, after the same has passed over the bobbin, and after the needle has ascended, the loop being so held that the needle, on its next descent, shall not pass through it. Each stitch is drawn tight by the subsequent action of the break of the bobbin case. The bobbin is held in place by a light spring having a hemispherical bearing dropping into a cavity in the centre of the bobbin.

Claim.—First, the oscillating shoe *m* applied in combination with the bobbin holder *m'*, bobbin *q*, and an eye-pointed needle *n*, substantially as and for the purpose set forth.

Second, the use of a spring bearing, *r'*, in combination with the oscillating shoe *m*, bobbin holder *m'*, and bobbin *q*, constructed and operating substantially as and for the purpose described.

Third, the reciprocating slide *u* in combination with the cam *t* and spring *v*, substantially as herein described, for the purpose of switching off the old loop before the next succeeding descent of the needle.

No. 49,024.—WILLIAM F. COCHRANE, assignor to himself, B. H. WARDER, and J. C. CHILD, Springfield, Ohio.—*Harvesting Machine.*—July 25, 1865.—This invention consists in the construction of a harvester in such a manner that the cutting apparatus may conform to the surface of the ground over which it passes, and may be folded upon the main frame in transporting the machine from place to place without the use of the usual joint in the finger beam. The construction and arrangement of parts by which this result is obtained will be manifest from an inspection of the claim and engraving.

Claim.—First, folding the cutting apparatus upon the main frame and between the driving wheels by the use of a single joint, substantially as described.

Second, connecting the finger beam and main frame by an extension bar bent at an acute angle and journalled in the frame, substantially in the manner described, for the purposes set forth.

Third, the combination of the main frame and cutting apparatus with oblique gearing and a single joint, substantially as described, for the purpose of folding the cutting apparatus on the frame between the driving wheels without deranging the gearing.

Fourth, the combination of the inverted bevel gear D with the counter-shaft, when arranged and operating as described.

Fifth, the combination of the counter shaft and crank shaft when arranged and operating as described.

Sixth, the combination of the extension arm brace K and counter-shaft, when arranged and operating as described.

No. 49,025.—JOHN O. COUCH, Middletown, Conn., assignor to the METROPOLITAN WASHING MACHINE COMPANY, Middletown, Conn.—*Wringing Machine.*—July 25, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, the combination of the single bell-cranked piece X, carrying rigid studs *x y*, with the single straight link Y, and with the supporting arm A2, arranged on a clothes-wringing machine so as to secure firmness and economy, substantially in the manner herein set forth.

Second, the arrangement of the pinching nut F, stationary screw *f*, within the framing A of a wringing machine, substantially as and for the purposes herein set forth.

Third, the rack I and pinion H in combination with the duplex lever or bail J, and suitable confining means K A', substantially as and for the purposes herein set forth.

Fourth, in combination with a roller wringer, the use of the bent wire or rod M, so mounted

and arranged as to perform the double function of a guide and a clearer, substantially as herein set forth.

Fifth, in combination with a clothes wringer, the adjustable castings G *g*, carrying the slides I I, to pinch the tub or vessel, and adapted to be turned and set in various positions, substantially as and for the purpose herein set forth.

Sixth, the soft bearing pieces Q in combination with the slides I and the adjustable castings G *g* of a clothes-wringing machine, substantially as herein set forth.

No. 49,026.—PETER E. FALCON, Cohasset, Mass., assignor to himself and GEORGE W. FULLER, Chelsea, Mass.—*Apparatus for Discharging the Cargo of a Sunken Vessel.*—July 11, 1865.—A lighter is employed, to which the discharging apparatus for sunken ships is attached, to act as the working windlass, guide, and hoisting ropes, which pass through pulley blocks. In the hold of the sunken vessel two vertical standards are placed, the one being forward, the other aft. These supports or standards have pulley blocks, through which the ropes lead which draw back and forward a scoop or bucket, which buckets, when filled, are drawn up to the lighter. The apparatus is especially adapted to discharge loose merchandise of cargoes, such as grain and the like.

Claim.—The combination and arrangement of the ropes *s h* and *m* with the tub *b*, the eye *o*, and blocks *r* and *l*, or their equivalents, the whole being applied to a submerged vessel and a lighter, or its equivalent, as explained, so as to enable the tub to be drawn through the hold of the vessel and out of the same, and to the surface of the water, and afterwards be drawn back again into the hold and through the same, substantially as specified.

Also, the combination of one or more bars *p q* with the said ropes *h* and *m*, the tub K, the eye *o*, and the back draught rope *s*, such bar or bars being applied to the submerged vessel in manner and to support the eye of one or more blocks, substantially as specified.

Also, the tub made and provided with the guide rods *x x*, as represented in Fig. 2, and as above described.

No. 49,027.—E. F. FRENCH, assignor to himself and E. C. TERRILL, New York, N. Y.—*Shirt Bosom.*—July 25, 1865.—This invention consists in the mode of securing shirt-bosom fronts together when worn, and consists in so forming its two flaps or sides that they can be fastened together without the use of studs, buttons, or other devices hitherto generally employed therefor.

Claim.—An "open front" shirt bosom secured together by means of one or more pockets formed along and upon the inner edge of one of the parts, and a corresponding number of interlocking lappets or flap pieces of suitable length and width on the other and overlapping part, substantially in the manner described and for the purpose specified.

No. 49,028.—JOHN HASELTINE, assignor to himself and JAMES M. WILLIAMS, Warren, N. H.—*Horseshoe.*—July 25, 1865.—This invention consists in applying between the shoe and the foot an India-rubber backing, the inner edge of which forms a roll and sets up tightly against the hoof to prevent snow or earth from getting between the shoe and the foot, and to prevent balling.

Claim.—The employment or use of India-rubber, either pure or combined with other substances, fitted between the shoe and the hoof or foot of the animal, and provided with a ridge or roll at its inner edge, or arranged in any equivalent way, for the purpose of preventing the admission of snow between the shoe and hoof, and at the same time preventing jars or concussions being transmitted to the hoof or foot, substantially as set forth.

No. 49,029.—MARCUS F. HITCHCOCK, assignor to himself and JAMES M. ROSS, Springfield, Mass.—*Heat Controller Attachment.*—July 25, 1865; antedated July 19, 1865.—The pipe of the stove or heater enters the chimney at quite a high point, and in the face towards the chimney and near the top joint is fitted a pipe connected with a drawer, which is placed between the stove and chimney. From the bottom of a drum a pipe runs into the chimney at a little distance from the floor. When the fire burns freely in the stove or heater the damper in the main pipe just above the orifice leading into the drum is closed. The heated air and products of combustion are thus forced down through the drum into the chimney.

Claim.—The combination and arrangement of the drum A and pipes D E and F, and damper H, as applied in the manner and for the purposes substantially as herein described.

No. 49,030.—JOHN F. HOLT, Providence, R. I., assignor to WOONSOCKET RUBBER COMPANY.—*Roller for Clothes Wringers.*—July 25, 1865.—This invention consists in constructing the shaft with a spiral groove, and binding a sheet of India-rubber upon it with a cord or braid so as to fill the spiral groove, and then covering the whole with India-rubber and curing and fusing the whole together by the process of vulcanizing.

Claim.—First, the spiral grooved mandrel, constructed substantially as described, for the purpose specified.

Second, the binding of the preliminary sheet, or thickness of vulcanizable material, on the mandrel, substantially in the manner and for the purpose described.

Third, an elastic roll, for the purpose specified, constructed substantially in the manner described.

No. 49,031.—ARTHUR HUSTON, Bristol, Me., assignor to SHAW & CLARK, Biddeford, Me.—*Sewing Machine Guide.*—July 25, 1865.—The upper pad, whether in the form of a plate or roller, is pressed upon the cloth by a spring, to which it is jointed or pivoted. This allows the pad to accommodate itself to the cloth by yielding on either side of the hinge and prevents the cloth becoming wedged between the upper and lower plates. The upper plate may be pointed on the side where the cloth enters.

Claim.—First, a sewing machine gauge, in which the pad or upper plate B is arranged and used substantially in the manner and for the purposes shown and specified.

Second, constructing the pad B substantially in the form described and shown in Fig. 1, for the purposes specified, when such pad is arranged and used in the manner herein set forth.

No. 49,032.—SIMON INGERSOLL, assignor to himself and GEORGE H. KEITH, Stamford, Conn.—*Ore Crusher.*—July 25, 1865.—This invention consists of a movable jaw suspended at its forward end to the frame of the machine, the other end being secured to an eccentric on a driving shaft, which, as it revolves, imparts to the jaw a rolling motion and a rolling pressure, crushing the ore} which, in its passage down, comes in contact with a revolving roller nearly in contact with the jaw and against which the pulverizing is completed.

Claim.—In combination with the movable jaw *d*, the cam *h*2, and the hangers *h' h'*, whereby the said jaw is made to operate in the manner herein specified.

No. 49,033.—JAMES D. INGRAM, New York, N. Y., assignor to GEORGE M. RICE, GEO. S. BARTON, and JAMES A. FALES, Worcester, Mass.—*Steam Pressure Gauge.*—July 25, 1865.—This invention consists in transmitting an equal given amount of steam irrespective of increase and diminution of pressure in the steam generator. Its novelty consists in the combination and arrangement of a hollow cylindrical or other suitable shaped plug with its guiding tube and the steam inlet and outlet ports.

Claim.—The combination of the hollow cylindrical or other suitable shaped plug *o*, with its guiding tube *f*, arranged together and having steam inlet and outlet ports, substantially as and for the purposes described.

No. 49,034.—CHARLES W. JOHNSON, Waterbury, Conn., assignor to HIRAM DAILEY and S. ATWATER.—*Rock Drill.*—July 25, 1865.—This invention consists in making an enlargement eccentrically on the drill or shaft carrying one or more cutters, so as to cut a hole nearly or quite twice as large as the drill, so as to drill through a tube and cut a hole large enough to let the tube follow the drill.

Claim.—In combination with the drill B, the enlargement C extending eccentrically from the drill and shaft, and carrying one or more cutters.

Also, in combination with the enlargement C, extending eccentrically from the drill shaft, bevelling or slanting up the top of the enlargement C so that it will enter the lower end of the tube freely.

No. 49,035.—HARVEY LOCKE, assignor to JOHN J. MCNUTT, Boston, Mass.—*Wood-turning Lathe.*—July 25, 1865.—The object of this invention is to cut twisted beads upon wood by means of cutting tools that always cut the grain of the wood in such a direction that it will be smoothly severed, and it consists in feeding the stock through a hollow mandrel in which are feed rollers that take hold of and feed along the stock to the revolving cutters, which are in three pairs; one cutter of each pair running in the direction contrary to the other, by which means the cutters cut the wood with the grain and smoothly.

Claim.—First, the combination of the stationary bevel gear W, rotating pinion X, hollow spindle V, pinions Z and A', links C' C', and feed wheels D' D', substantially as and for the purpose described.

Second, the adjustable clamp K', and spring clamp E', substantially as set forth, and for the purpose described.

Third, the adjustable clamps M' and N', arranged substantially as and for the purpose described.

Fourth, so arranging the feed rolls D' D' as to bear on each side of the corner of the square stock to be cut, substantially as and for the purpose described.

Fifth, confining the cutters *d* to the wheels O, by means of a dovetail and a clamp and screw inside of the circle described by the edge of the cutters, substantially as described.

No. 49,036.—C. MARSH, assignor to the WHEELER & WILSON'S MANUFACTURING COMPANY, Bridgeport, Conn.—*Binder Guide for Sewing Machines.*—July 25, 1865.—The main object of this invention is so to fold and guide binding to the rim or edge of a hat body or other article as to leave a tubular passage in the binding between it and the lining of the same, and the space occupied by it during the sewing forms the required tubular passage.

Claim.—First, the combination in a binder guide of the following instrumentalities, viz: the stock, tongue, and guide, substantially as set forth.

Second, the combination in a binder guide of the following instrumentalities, viz: the stock, tongue, guide, and adjusting screw, to vary the relative positions of the tongue and lips of the guide, to admit binding of various widths. substantially as set forth.

Third, the combination in a binder guide of the following instrumentalities, viz: the stock, tongue, guide, and adjusting screw, to vary the relative positions of the tongue and guiding lips in the vicinity of the point where the sewing is effected, substantially as set forth.

Fourth, the combination in a binder guide of the following instrumentalities, viz: the stock, tongue, guide, and lip, to flatten the folded binding, substantially as set forth.

No. 49,037.—B. G. MARTIN, Philadelphia, Penn., assignor to himself and THOMAS M. DAVIS, LLOYD H. WALTON, and WATSON SANFORD.—*Carpenter's Rule.*—July 25, 1865.—This invention consists in applying to a common two-feet rule first a pointed swinging arm so as to adapt the rule to the purposes of a plumb level, and also a curved scale and pointed in such a manner that the instrument may serve the purposes of a level, a square and level, any angle of inclination being noted by the pointer upon said scale.

Claim.—First, the swinging arm C, in combination with a pocket rule A B, the same being arranged to operate together substantially as described, for the purposes specified.

Second, the index D, and pointer *d'*, in combination with a pocket rule A B, the same being arranged to operate together, substantially as described, for the purposes specified.

No. 49,038.—JOSHUA MONROE, New York, N. Y., assignor to himself and JETUR GARDINER, of same place.—*Artificial Leg.*—July 25, 1865.—This invention consists in a double butt hinge fastened to two pieces of wood, one of which is inserted in the leg above and the other below the knee-joint. These pieces are so shaped that the requisite motion backwards and forwards is left to the leg, and that at both extremities of its motion the hinge and the pieces of wood are brought flat against each other, and a positive stop is obtained. The invention also consists in tendons arranged in such a manner that when the leg is straightened, the tendons will have a tendency to prevent it from bending involuntarily.

Claim.—First, the double butt hinge D, in combination with the blocks E F, having planes *a a' b b'*, and with two parts of an artificial leg above and below the knee joint, constructed and operating substantially as and for the purpose set forth.

Second, the tendon I, composed of two parts *i j*, which are connected to each other by a loop *k*, and to the various parts of the artificial leg, viz: the heel, the block E below and the block F above the knee joint, substantially in the manner and for the purpose specified.

No. 49,039.—CELIUS E. RICHARDS, North Attleboro', Mass., assignor to VERNON A. MESSENGER, Boston, Mass., and VIRGIN J. MESSENGER, Canton, Mass.—*Shirt Collar and Bosom.*—July 25, 1865.—The collar and bosom being made in one piece of paper, the point of attachment is at the centre in front of a free edge of the bosom passing toward the shoulder and adapting itself to the movements of the person, as it could not if united to the collar. The collar reaches down but a little way on the side next the neck, except in the rear centre, where a tag descends to button to the shirt.

Claim.—The construction of the collar, viz: its inner fold *a* of a less width than that ot the outer fold *b*, and with a back button trole fly *c* to extend from such fold *a*, as specified.

Also, the construction of the bosom, viz: with the wings *d d* separated from the collar by the spaces *c c*, and to extend from the bosom and go underneath the collar while in use, the whole being substantially as specified.

No. 49,040.—W. A. SHAW, assignor to himself, GARDNER WILLARD, LEWIS COLWELL, and JOSEPH COLWELL, of New York, N. Y.—*Tin-lined Lead Pipe.*—July 25, 1865.—This invention is designed as an improvement on that patented to the same inventor March 10, 1863, and that of Willard A. Shaw, January 26, 1864. The invention consists in cooling by artificial means the core cylinder of tin before casting the core around it so as to prevent the melting of the former, and so as to obtain a cold solid ingot in a shorter time.

Claim.—The method herein specified of chilling the cast metal in the cylinder of a hydraulic pipe press, by a core, cooled as set forth, immediately before it is employed in said cylinder, as specified.

No. 49,041.—N. L. SIBLEY, Weston, Mass., and BENJAMIN SHIVERICK, Waltham, Mass.—*Furnace Door.*—July 25, 1865; antedated June 7, 1865.—This invention consists in placing plates a short distance in front of a furnace door, so as to leave spaces through which a blast of air may be driven to carry off the heat and preserve the door.

Claim.—The application of one, two, or more plates of metal or other material, arranged so far from the door and from each other by suitable means as to form proper and sufficient space for the free circulation of air between the door and the plate, and between the several plates, substantially as described, for the purpose set forth.

Also, connecting the applied plates to the door by means of bolts, studs, or flanges, either with or without the use of the strips of soapstone, fire-brick, plaster, or other slow conductors of heat.

Also, a door provided with an air space between the door and the water box, arranged outside of the door, substantially as described.

No. 49,042.—I. H. SPENCER, Pawtucket, R. I., assignor to himself and A. R. SLADE, of same place.—*Machine for Grinding Files.*—July 25, 1865.—In this machine the files are secured one after another upon a carriage which moves under a revolving cutter on a curved bed, in such a manner that the shape of each file depends entirely upon the curvature of the bed, and as long as this curvature remains unchanged, all the files turned out upon it are uniform in shape. The files are held in position upon the carriage by a sliding clamp operated by a toothed segment. This segment connects with a hand lever in such manner that when the clamp has been made to catch over the end of the file, the toothed segment is locked and the clamp thus prevented from spontaneously releasing the file.

Claim.—First, the within described method of grinding files, by placing them on a carriage moving on a curved bed, and exposing them to the action of one or more cutters, substantially in the manner and for the purpose herein set forth.

Second, the sliding clamp F, in combination with a toothed segment *m*, hand lever H, and hinged dog *p*, constructed and operating substantially as and for the purpose described.

Third, the combination of the cutters I J with the carriage B and curved bed A, constructed and operating as and for the purpose specified.

No. 49,043.—JAMES N. PEASE, Panama, N. Y., assignor to the METROPOLITAN WASHING MACHINE COMPANY, Middlefield, Conn.—*Wringing Machine.*—July 25, 1865.—In this machine the cranks are combined with rods and suitable guides for the reciprocating ends of the connections, and the parts are so arranged as to transmit the motion of one roll to the other. Combined with the hand lever and the movable roll is a gear and rack adapted to be operated by the weight of the roll and of the hand. A hand lever is made to depress one end of another lever in combination with an adjusting screw nut adapted to press upon and form a movable fulcrum at the opposite end.

Claim.—First, the cranks B′ C′, and B2 C2, and rods D′ E′, and D2 F2 with suitable guides for the reciprocating ends of the connections, all arranged for joint operation, so as to transmit the motion of one roll to the other, substantially as and for the purposes herein specified.

Second, the gear K and rack L, or their equivalents, in combination with the hand lever M*, and with the movable roll C, adapted to be operated by the weight of itself and of the hand, substantially as herein specified.

Third, the hand lever M* operating to depress one end of the lever I, in combination with the adjusting screw nut *j*, or its equivalent, adapted to press upon and form a movable fulcrum at the opposite end, substantially as herein specified.

Fourth, the sliding and swinging shield piece P, mounted and arranged substantially as and for the purpose herein set forth.

No. 49,044.—E. VALENTINE and MOSES T. RIDOUT, assignors to themselves and WM. BECK, Milwaukee, Wis.—*Apparatus for Feeding Threshing Machine.*—July 25, 1865.—This invention relates to devices by which the sheaves of grain may be fed entire into the machine, in which process the bands are cut, and the sheaf spread out to be evenly received by the threshing cylinder.

Claim.—Combining with each other and with a hopper S, and feeding box H, attached to a threshing machine, suitable revolving knives *e e*, for cutting the bands, confining sheaves of grain, and revolving beaters or paddles *k k* and *m*, to sift and spread out the same when said knives and beaters are secured to and operate upon separate shafts, substantially in the manner herein set forth.

No. 49,045.—ELIJAH and MOSES T. RIDOUT, assignors to themselves and WILLIAM BECK, Milwaukee, Wis.—*Machine for making Metallic Tubes or Spouts.*—July 25, 1865.—This invention consists of three tapering permanently adjustable and one removable roller, the latter, when in place, having one of the former immediately under, and one on each side thereof, supported in suitable journal boxes. The removable roller is supported at its small end by a vertically sliding box, operated by a spring beneath, and open at the top to permit that end of the roller to be elevated to remove the tube formed upon it. The mode of operation is as follows: The sheet, of proper shape, is placed under the removable roller and resting upon the top of the side ones, when the forming or removable roller is pressed down by means of arms on a rock shaft, which arms, pressing upon its journals at each end, force it with the sheet down between the side rollers and upon the bottom one, when by rotating all four in unison the bending of the sheet around the forming mandrel is completed, and by raising the latter at its small end the tube, finished for soldering, can be slid from the mandrel.

Claim.—The use and arrangement of two or more stationary rollers E E, in combination with a detachable forming roller F, partially enclosed thereby, when all of said rollers have a tapering form, and are made to revolve in unison with each other, substantially in the manner and for the purpose herein set forth.

Also, in combination with a detachable forming roller or mandrel F, and stationary auxiliary rollers E E′, the pressure arms M and N, arranged and operating substantially as and for the purpose herein set forth.

Also, the spring-actuated rod G, so combined with the supporting block D, and the pressure arm N, as to form an adjustable journal box for the free end of the detachable mandrel F, substantially in the manner herein set forth.

No. 49,046.—T. B. WEBSTER, assignor to himself and THOMAS GANNON, New York, N. Y.—*Press.*—July 25, 1865.—This invention relates to a press, in which the follower is actuated by two sets of lever pawls and eccentrics, in combination with the ratchet wheels and chains. The driving eccentrics are placed at right angles to each other, so that if one of the pawls draws back to take a new tooth, the other pushes, and the motion of the follower is made as steady and continuous as possible; said eccentrics are, however, arranged in such a position that the lever pawls on one end of the press take hold at different times from the one on the opposite end.

Claim.—First, the arrangement of the eccentrics N N′ on the driving shafts P, in combination with the lever pawls *t t′*, ratchet wheels *r r′*, and with the chains, wheels and chains, or their equivalents, constructed and operating substantially as and for the purpose set forth.

Second, placing the two sets of eccentrics, N N′, at the opposite end of the shaft P, at right angles to each other, substantially as described, so as to impart to the follower an alternate rising motion.

Third, the hand wheels H, applied in combination with the axles *p*, ratchet wheels *r r′*, and chain wheels *n*, substantially as and for the purpose specified.

No. 49,047.—T. B. WEBSTER, assignor to himself and T. GANNON, New York, N. Y.—*Screw Press.*—July 25, 1865.—In this press the follower is actuated by two sets of lever pawls and eccentrics, in combination with certain ratchet wheels and chains, racks and pinions, worms, or worm wheels, in such a manner that by the continuous revolution of the driving shaft, an intermittent rectilinear motion is imparted to the follower, and a powerful pressure effected.

Claim.—First, a press, provided with a right and left hand screw spindle E, the gear wheels F G, and cranks I I, or their equivalent, in combination with heads *e*, detachable nuts J J, toggle arms K K, and followers C C, situated on the opposite sides of the spindle, all as herein shown and described.

Second, making the boxes which form the bearings for the screw spindle and for the driving shafts yielding, substantially as and for the purpose set forth.

Third, the eccentric shafts *d d*, geared together by cog wheels *f f*, and operated by a hand wheel G, or its equivalent, in combination with the jaws *b b*, spindle E, and followers *c c*, constructed and operating substantially as and for the purpose specified.

No. 49,048.—HIRAM E. WEST, Attleborough, Mass., assignor to OLIVER CARPENTER & CO., New York, N. Y.—*Machine for Pressing Hats and Bonnets.*—July 25, 1865.—This invention consists of a combination of levers applied to the machine patented to the applicant January 29, 1861, to facilitate the operation thereof.

Claim.—Drawing the block C and mould B together by means of levers, substantially as described.

No. 49,049.—H. E. WEST, Attleborough, Mass., assignor to himself and E. P. CARPENTER, Foxborough, Mass.—*Apparatus for Embossing Bonnets.*—July 25, 1865.—This invention consists in the use of removable dies, which are placed over or under the bonnet, which is then pressed between the block and the mould; the outer surface of the block or the inner surface of the mould being covered with an elastic yielding material which forcibly presses the article into the openings or depressions in the die, thereby producing a fac-simile impression.

Claim.—As an improvement in the manufacture of bonnets, hats, caps, &c., the removable die for embossing, substantially as set forth.

No. 49,050.—SOLON W. YOUNG, assignor tc himself and CHARLES T. PLACE, Providence, R. I.—*Manufacture of Steel.*—July 25, 1865.—This invention consists in making steel of a mixture of wrought and cast-iron. The cast-iron is first melted and poured into water. After it has cooled it is mixed with wrought-iron, and the mixture is then melted and cast into ingots, when it is ready for hammering or rolling.

Claim.—The within-described process for manufacturing steel, composed of three manipulations, substantially as set forth.

No. 49,051.—HENRY BESSEMER, London, England.—*Manufacture of Iron and Steel.*—July 25, 1865; patented in England March 15, 1856.—This invention consists, first, in a method of introducing air and steam into molten metal in carrying out what is known as the Bessemer process. The air enters through a pipe, and, by the arrangement claimed, the end of the blast-pipe is not exposed to the metal. The second part of the invention relates to moulds for ingots, the metal entering from the bottom of the mould as being drawn in by vacuum.

Claim.—First, forcing currents of air or steam through and in contact with molten iron without the use of tuggers or nozzles, substantially in the manner shown.

Second, a converting vessel divided into two chambers, so that air or steam forced upon the surface of the metal in one chamber may pass into the metal in the other chamber under or through the partition between the two chambers.

Third, the projections N and P, either separately or in combination, in chambers or vessels for converting molten iron for the purpose, of more thoroughly diffusing the currents of air or steam through said molten iron.

Fourth, the perforated screen K, either by itself or in combination with either or both of the projections N and P, in chambers or vessels for converting molten iron, for the purpose of more thoroughly diffusing the currents of air or steam through said molten iron.

Fifth, a mould, provided with a runner or runners, lined with loam or other suitable non-conducting material, substantially as and for the purposes described,

Sixth, a mould from which the atmosphere may be exhausted, or partially exhausted, substantially as and for the purpose set forth.

No. 49,052.—HENRY BESSEMER, London, England.—*Manufacture of Iron and Steel.*—July 25, 1865; patented in England May 31, 1856.—This invention consists, first, in using the heat produced in the operation of decarbonizing iron in the Bessemer process for melting pig-iron or other metal. The decarbonizing is carried on in the body of the furnace, and the metals to be heated or melted by the hot gases are placed in an upper chamber; or the converting process may be carried on in a furnace or the hearth of a reverberatory furnace. The second part of the invention consists in alloying the iron with the metals during the converting process, and, third, in blowing chemicals into the iron during the process of treating it in the converting vessel.

Claim.—First, the use of the double chambers, substantially as described, for treating iron or alloys or fluxes, for the purposes specified.

Second, heating or melting pig iron or other metals in a reverberatory furnace or other suitable vessel, by the heat given off when streams or jets of air or steam are forced through fluid crude iron, in the process of converting such fluid crude iron into malleable iron or steel, substantially as described.

Third, alloying iron or steel with other metals by mixing such other metals with the iron or steel during the process of converting said iron or steel from crude iron by currents of air or steam.

Fourth, blowing powdered metals or oxides of metals or alloys or fluxes into molten iron by means of the currents of air or steam used to decarbonize the said molten iron, substantially in the manner described.

No. 49,053.—HENRY BESSEMER, London, England.—*Manufacture of Iron and Steel.*—July 25, 1865; patented in England January 24, 1865.—This invention consists in manufacturing the plates or sheets of metal directy froml fluid iron or steel as it comes from the furnace. The metal is allowed to flow from the ladle or furnace into the space between two rollers, the said rollers being provided with openings in their centres for the circulation of water. The external surfaces of the rollers are cooled by jets of water.

Claim.—First, rolling sheets, plates, bars, and other forms from fluid malleable iron or steel, by running or pouring said fluid metal between the rolls, substantially as described.

Second, the blocks *f* and springs *g*, for the purpose of removing water from the surface of the rolls.

Third, the scrapers *w*, for the purpose of removing the plate or bar of rolled metal from the rolls in case of adhesion thereto.

Fourth, holding the rolls in close contact with each other previous to pouring in the molten metal, substantially as and for the purposes described.

Fifth, rolling fluid metal by means of rolls cooled by passing water through suitable passages formed in the said rolls, substantially as described.

No. 49,054.—HENRY BESSEMER, London, England.—*Process of Manufacturing Axles, &c., from Iron and Steel.*—July 25, 1865; patented in England March 16, 1859.—The object of this invention is to make large articles, such as crank axles, shafts, &c., free from flaws. The iron or steel is formed into slabs, and the article cut out by sawing.

Claim.—First, the manufacture of locomotive and other crank axles from a plain slab or rolled or hammered ingot of cast malleable iron, cast steel, or cast semi-steel, by sawing or otherwise cutting away such parts of the mass as will leave a piece of metal having the general form or configuration of the intended crank axle.

Second, in the manufacture of locomotive and other crank axles made of cast malleable iron or cast steel, or cast semi-steel, the twisting of the axles so as to alter the angle of the different throws from the common plane in which they are formed, into any desired angle or relative position to each other.

No. 49,055.—HENRY BESSEMER, London, England.—*Machinery for the Manufacture of Iron and Steel.*—July 25, 1865; patented in England March 1, 1860.—The nature and object of this invention are explained by the claim.

Claim.—First, a converting vessel, capable of rotary motion upon its own axis, in combi-

nation with a rack and pinion, or any equivalent mechanism, operated by hydrostatic pressure in a cylinder, for the purpose of giving to such a vessel a rotary or semi-rotary movement.

Second, a converting vessel, combined with a tuyere box, so constructed as to constitute a chamber for receiving air for decarbonizing crude liquid metals and distributing such air to the tuyeres.

Third, a tweer box, so constructed as to constitute a chamber for receiving air for decarbonizing crude liquid metal, and distributing such air to the tuyeres, when the bottom of said tuyere box is made of a piece or pieces suitable to be easily removed, as and for the purposes set forth.

Fourth, the combination of the ladle with the crane arm, or its equivalent, so that the ladle shall be held in a fixed position relatively to the crane arm, but shall be capable of being tipped when desired, substantially as and for the purposes specified.

Fifth, the combination of a ladle capable of being held in a fixed position relatively to the crane arm, or its equivalent, substantially as described, with any suitable means of lowering the ladle, as and for the purposes specified.

Sixth, the employment, in the manufacture of malleable iron or steel, of casting ladles, having two or more valvular openings in their bottoms.

Seventh, the method of filling several moulds at one time from a basin or vessel having several outlets, such basin or vessel being supplied with fluid malleable iron or steel during such casting process, substantially as described.

Eighth, the method herein described of forming tuyeres by pressure from dry or nearly dry materials.

No. 49,056.—ANDRÉ CHAVAUNE, Paris, France.—*Apparatus for Receiving and Delivering Mail Bags to and from Railroad Trains and Stations.*—July 25, 1865.—This invention consists of an apparatus by means of which a mail bag or other package carried on a railroad train can be deposited at any station, and at the same time a bag or package from the station delivered to the train while moving at full speed.

Claim.—First, the open case A, applied to a railroad car and operating in combination with the trident *g i*, secured to a post or other stationary part in a station, substantially as and for the purpose set forth.

Second, the movable screen *e* in the interior of the open case A, to operate in combination with the mail bag or package C, substantially as and for the purpose described.

No. 49,057.—M. L. M. DESCONTURES, Paris, France.—*Breech-loading Fire-arm.*—July 25, 1865.—A double-barrelled fire-arm is provided with an oscillating or swinging breech block, which, by means of a spring stop-handle below, may be moved to either side upon a shaft or bearing which forms the connection between the fixed barrels and the stock, and may thus be made to uncover one or both of the chambers at pleasure. A percussion rod, passing through each portion of the double breech block, transmits the blow of each of the two hammers to its respective chamber and barrel.

Claim.—First, the employment in or application to fire-arms of an oscillating breech, operating substantially as hereinbefore described.

Second, the application of the oscillating breech described to double-barrelled fire-arms, in such manner that either one of the two cocks or hammers may act either on the needle striker or exploding rod of its own barrel or on that of the other barrel, so that the arm may be discharged with one barrel charged and the other barrel open as well as when both are charged.

Third, the arrangement relatively to each other and method of fitting together the barrel, breech, and butt, whereby simplicity of construction is combined with strength, durability, and perfect security.

No. 49,058.—JOHN RAMSBOTTOM, Cleeve, England.—*Machinery for Hammering Metal.*—July 25, 1865.—These are devices for holding and arranging the ingot of metal between two horizontally simultaneously moving hammers, and consists of a platform or frame upon which are fitted a series of sliding heads or carriers, furnished with friction rollers, arranged to suit the shape of the ingot, to enable the operator more readily to turn or move it to receive the blows of the hammers in the proper place.

Claim.—First, the improvements in and applicable to duplex or compound steam hammer, as described and shown in sheets 1, 2, and 3 of the accompanying drawings.

Second, supporting the hammer blocks on sectors, as shown and described in reference to Fig. 9*.

Third, the improved apparatus, described and shown in sheets 4 and 5, for supporting and holding ingots and other pieces of metal during the operation of hammering.

Fourth, the apparatus, described in reference to Fig. 23, for traversing the track with the ingot or other articles to and fro during the operation of hammering.

No. 49,059.—D. A. B. SAVY, Paris, France, assignor to E. T. VANDERBERG, Toulon, France.—*Weighing Attachment for Pen-holders or Pencils.*—July 25, 1865.—This invention consists in the application to a pen-holder or pencil of a clasp, capable of holding a letter or

other article to be weighed, in combination with one or more notches cut or otherwise produced in the surface of the holder or of the pencil, in such a position and in such a manner that, by placing the pencil or pen-holder on the edge of a knife or other similar implement, the weight of a letter or other article secured in the clasp can be readily determined.

Claim.—A weighing attachment, constructed substantially as described, and applied to a pen-holder or pencil, for the purposes set forth.

No. 49,060.—JOHN VANDYKE, Grimsby, Canada West.—*Boring Machine.*—July 25, 1865.—The object of this invention is to bore wood by a machine, and it consists of a movable frame, carrying the operating machinery and surrounding a fixed frame. The movable frame can be adjusted to any elevation desired, or it can be set to any angle, and the boring tool does its work without derangement by means of adjusting screws that are swivelled to the movable frame and pass through a screw-nut in the fixed frame, and, when adjusted as desired, is held by set or clamp screws passing through the movable frame and against the uprights of the fixed frame.

Claim.—First, the combination of the movable frame B, which carries the shaft or stock of a boring tool with a fixed frame B′, on which it works up and down by means of elevating screws H H, substantially as and for the purpose above described.

Second, the combination of the elevating screws and the adjusting screws J K K with the movable frame B, substantially as and for the purpose above described.

Third, the feeding slide I, in combination with the shaft C of the boring tool, and the slide bar O of the movable frame, for the purpose of feeding the tool to the work, substantially as above described.

No. 49,061.—JOHN ADAMS, Kokomo, Ind.—*Shoe Fastening.*—August 1, 1865.—This invention consists in a device composed of two sections, one having two plates, three tangs, and a shaft; the other section having two plates, a pin and lever, and three tangs, to be used in place of a buckle, eyelets, laces, &c.

Claim.—The entire fastening composed of two sections, one section having two plates, three tangs, and a shaft, (with three notches;) the other section having two plates, a pin and lever, and three tangs; all of which, as made and combined, I claim as my invention, to be used in place of buckle, eyelets, laces, &c., on shoes and harness.

No. 49,062.—FREDERICK ASHLEY, New York, N. Y.—*Egg Boiler.*—August 1, 1865.—Above the boiler is attached an hour-glass, so suspended in a frame as to be easily reversed; the running of the sand in the glass indicates the proper time required for cooking the eggs.

Claim.—As a new article of manufacture an egg boiler having a suitable indicating glass, arranged and operating substantially as and for the purpose specified.

No. 49,063.—J. B. ATWATER, Chicago, Ill.—*Steam Pump.*—August 1, 1865.—The object of this invention is to fill the tenders of locomotives with water by the power of steam, to be taken from the locomotive boiler and mingled with the atmosphere contained in the vessel from which the water is to be forced out and into the tender.

Claim.—The combination and arrangement of the chambers *a b*, valves *c d*, pipes D E G, and cocks *g g′*, constructed and operating substantially as described.

No. 49,064.—LEWIS J. ATWOOD, Waterbury, Conn.—*Lamp.*—August 1, 1865.—This invention consists in uniting the chamber holder to the shell of the burner by a hinge so constructed and arranged that the side of the said shell forms a stop to the chimney holder when turned back.

Claim.—A lamp burner with the chimney holder projecting beyond the perforated burner shell, uniting the chimney holder to the shell by a hinge whose centre is at or near the edge of the shell, so that the side of said shell shall form a stop to the chimney holder when the chimney is turned back, as specified.

No. 49,065.—ELIAS BAKER, Pittsburg, Penn.—*Drill for Oil Wells.*—August 1, 1865.—This invention consists in making a drill of fast and movable flat chisel-formed cutters combined in one stock, in such a way that the movable cutter will be the leading cutter, and, after it has made its stroke, will receive a blow on its top end from the descent of the fast cutters, thereby driving it past them into the rock.

Claim.—First, a drill for boring oil or other deep wells, constructed of a plurality of flat or chisel-shaped cutters, one or more of which are movable up and down past the other cutters or cutting faces of the drill, substantially as and for the purpose above described.

Second, so constructing a drill, having both fixed and movable cutting faces, as that the head of the main drill stock shall, on its descent, deliver a blow on the stocks of the movable cutters, substantially as and for the purpose above described.

Third, forming a reamer on the end of one or both of the stocks B B′ of the drill, substantially as above described.

No. 49,066.—JAMES BALL and JOHN PARKER FORD, Zanesville, Ohio.—*Paint Composition.*—August 1, 1865.—This invention consists of a mixture of litharge, red lead, borax, and sugar of lead, with coal tar, the mixture being heated and applied with a brush while hot, and then sprinkled with sand.

Claim.—The addition of litharge, red lead, borax, and sugar of lead to coal tar, thereby giving body and drying qualities to the composition, and making a durable covering to a roof or other wood-work to which it may be applied.

No. 49,067.—ORLANDO BARKER and GEORGE E. BLAKELEE, Huntington, Ohio.—*Sheep Chair.*—This invention consists of a trough placed upon legs with an adjustable extension side for holding the animal firmly during the process of shearing.

Claim.—The above-described sheep chair, constructed as and for the purposes herein set forth.

No. 49,068.—S. G. BARKER, Dunmore, Penn.—*Safety Valve for Steam Generators.*—August 1, 1865.—The object of this invention is to relieve an excess of pressure in a steam generator more readily than by means heretofore used, and thereby avoid explosion; it also consists in the combination of two or more valves with one lever, and a weight or spring, and an adjustable fulcrum.

Claim.—First, the application of two or more valves *b b'*, in combination with one and the same lever E, and with a spring or weight, substantially as and for the purpose set forth.

Second, the adjustable fulcrum F in combination with the lever E, valves *b b'*, and spring or weight, constructed and operating substantially as and for the purpose described.

No. 49,069.—HENRY BETTS, Norwalk, Conn.—*Manufacture of Paper Stock.*—August 1, 1865.—This invention consists in the manufacture of paper stock from the stalks and root of the plant known as sedge. The stalks are cut while green, and allowed to remain exposed to the air as long as possible without injury to the fibre. They are then cut in a straw cutter, and thoroughly washed in water, and then boiled in a solution of caustic soda; the roots are washed and converted into pulp in the same manner as the stalks.

Claim.—The application of the fibres of the stalks, and also of the roots of the plant known as sedge, to the manufacture of paper, whether the same be used separately or in combination with other ingredients, substantially as herein set forth.

No. 49,070.—DANA BICKFORD, Boston, Mass.—*Rotary Engine.*—August 1, 1865.—This invention consists of a cylinder placed within a case in which it revolves. The interior of which case has a cam-shaped surface upon one side for the purpose of closing the valves or pistons in the cylinder, which are made to fit into recesses in the same. To these pistons is attached a lever which moves out and in a chamber in the cylinder, which is so constructed as to prevent the pistons from leaning too hard against the inner periphery of the case. Each head of the case has a recess formed in it in such a manner and at such a point as to allow steam to the chamber in which the lever works in the rear of the head on the end of such lever, and force it outward, thus opening the piston at the proper time to receive the steam passing in at the induction opening.

Claim.—The combination of the brace *g* and its receiving and stopping passage *h* with each piston D, arranged in and so as to operate with a cylinder B, cam C, and a case A, substantially as specified.

Also, the combination and arrangement of the passage *l* in the head or side plate of the case A with the cylinder B and its pistons D D arranged within the said case, as and for the purpose specified.

Also, the arrangement of the annular packing recess *c* in the head or plate *b*, and with respect to the cylinder B, as specified.

No. 49,071.—ABNER W. BISHOP, York, Ohio.—*Animal Yoke.*—August 1, 1865.—A lever pivoted to the lower end of the yoke is provided at its upper end with a spring, bearing pins of sufficient length to protrude through the upper end of the lever into the neck of the animal, when the latter runs the lower end of the lever against a fence.

Claim.—The application of the spring E to upper side of lever, by which, by reason of the combination of the yoke G and bolts D and C and lever B, the pins F F protrude and withdraw as the nature of the case requires.

No. 49,072.—EDWARD H. BOSWELL, Philadelphia, Penn.—*Mucilage and Marking Brush.*—August 1, 1865.—This invention consists in the employment of an elastic band applied to the stem of the brush and the cover of a mucilage, marking, or other bottle, for the purpose of always keeping the brush elevated above the contents of the bottle, except when forced down for the purpose of taking up some of the fluid for use.

Claim.—A rubber or other elastic band applied to the brush and cover of a mucilage, marking, or other bottle, for the purposes herein specified.

No. 49,073.—MILTON BOWKER, Fitchburg, Mass.—*Conical Turning Gauge.*—August 1, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—A combination composed of the self-adjusting bar D, the pinion and arbor C, the friction roller G, the scroll-spring F, the check-pin H, the hand E, and the dial-plate B, the whole being arranged substantially in the manner and for the purpose herein described and set forth.

No. 49,074.—LEVERETT BRADLEY, New York, N. Y.—*Helices for Magnets.*—August 1, 1865.—This invention does not admit of a brief description. Its nature will be understood from the claim.

Claim.—A helix composed of two or more connected spires or tiers of uncovered wire, with sufficient space between the several turns of the wire to perfectly separate them from each other, and with the different tiers of wires forming the helix also separated (except at he ends) by the interposition of some non-conductor of electricity.

No. 49,075.—JAMES BREWER, Albany, Ill.—*Cultivator.*—August 1, 1865.—In this machine there is a combination of adjustable corn guards, swivelling from ploughs, with adjustable sliding collars. The plough standards are secured by adjustable brackets and crank hinges to vary the angle of the plough.

Claim.—First, the combination of the corn guards R, the stirrups and the swivelling standards S, with the frame, when arranged and operating as described.

Second, the combination of the swivelling front ploughs and the frame, with the adjustable sliding collars, the drag chains, the lifting chains, the tension screws and the tilting lever when constructed, arranged, and operating as described.

Third, the combination of the plough standards and frame with the adjustable bracket O, and swivelling or crank hinge P, when constructed, arranged, and operating as described, for the purpose of varying the angle of the plough to the furrow, while allowing the ploughs both vertical and lateral play, as set forth.

Fourth, the combination of the triangular frame, the adjustable driver's seat, the lifting lever, the outer ploughs, the adjustable inner ploughs, the shields, the stirrups, and the lifting chains, when arranged and operating substantially in the manner and for the purpose described.

No. 49,076.—DAVID BROWN and WILLIAM S. WOOTON, Kokomo, Ind.—*Shoe.*—August 1, 1865.—This invention consists in attaching to the shoe at the back a double-winged folding flap, the ends of which are passed around the instep, and there fastened by buckling, buttoning, &c.

Claim.—The combination of the slit *f* at the back of the boot, the double wings or gores *l l*, attached at the respective sides of the said slit, and the flap *o* attached at the top of the counter, and the outer edges of the gores *l l* passing completely around the boot top, and fastening above the instep in front, all as herein represented and described.

No. 49,077.—BROWN A. INGHAM and F. L. LOMONT, Massillon, Ohio.—*Reaping Machines.*—August 1, 1865.—This invention relates to the arrangement of devices for operating the tilting platform for the discharge of the cut grain, and consists in pivoting the platform at its rear edge to arms or links hinged to the outer and inner shoes, the forward edge of said platform being hinged to a narrow strip or extension, which in turn is pivoted in vibrating links connected with standards on the shoes; said links and hinged strip form a toggle lever, allowing the front of the platform to be thrown up for the discharge of the grain, the strip acting at the same time as a grain guard or cut-off to arrest the falling grain, and prevent its mingling with that being discharged from the platform. The arms to which the rear of the platform is pivoted, being in turn hinged to the shoes, the platform is allowed to rise bodily in passing obstructions.

Claim.—First, the link *b* and standard F, in combination with the strip *a*, and platform H, hinged together, substantially as and for the purpose set forth.

Second, the arms *c c'* pivoted or hinged to the shoes, in combination with the platform H, substantially as and for the purpose set forth.

No. 49,078.—A. H. BUGHER, Cincinnati, Ohio.—*Fare Box.*—August 1, 1865.—In this device a lever is connected to a bell on the under side of the fare box. This lever extends across the mouth of a slot, so that when the tickets are inserted, it is displaced and the bell is rung.

Claim.—The checking and registering device, composed of the slot D, resilient tongue N, and bell O, when arranged and constructed as herein described.

No. 49,079.—A. H. BUGHER, Cincinnati, Ohio.—*Fare Box.*—August 1, 1865.—This invention consists in providing a concavity in the back of the box for the insertion of the arm of the holder.

Claim.—Providing the back of check boxes with a concavity E, as and for the purpose herein set forth.

No. 49,080.—A. H. BUGHER, Cincinnati, Ohio.—*Fare Box.*—August 1, 1865.—The keyhole guard is provided with a flaring stud or button adapted to operate in connection with the curb for the reception of a wax seal.

Claim.—In locks a keyhole guard or scutcheon J, provided with a flaring stud or button M, adapted to operate in connection with the curb L for the reception of a wax seal, arranged as herein set forth.

No. 49,081.—M. F. BURLINGAME, Willett, N. Y.—*Fetter for Animals.*—August 1, 1865.—This fetter is made in two sections joined together by a hinge. The ends, which are fastened to each other, are formed, the one with a radially projecting hub, and a pin projecting from said hub, which supports a swivel bow to which the chair is attached. The end of the other section has a radial stub, which falls into a recess in the side of the hub, and lies flush with it, and when thus closed, the two sections are held together by a ring which surrounds the hub, the ring having a spiral spring arranged within it to hold it in position, and a notch across its lower edge to allow the radial stub to pass through whenever it is turned in the direction to bear against the spring, so as to bring the stub and notch into correspondence.

Claim.—In combination with the hinged ring A, the cap C and its spring, the whole constructed and operated substantially as and for the purposes set forth.

No. 49,082.—WILLIAM L. BURT, Boston, Mass.—*Car Brake.*—August 1, 1865.—This invention consists in the construction of a car brake and operating it by means of one rod running from the brake bar bent in the centre, either end being attached to the bar near the brake-heads. An adjustable screw attaches the rod to a lever near its centre, and the whole is operated by a windlass at either end of the car.

Claim.—The combination and arrangement of the rods G H with the brake-heads, the lever *b'*, and the windlass mechanisms for operating such lever.

Also, the arrangement and combination of the adjusting screws and nuts *b c* with the lever F and the rods G H, applied to the brake-heads, as specified.

No. 49,083.—J. R. CADWELL, Dexter, Mich.—*Horse Hay-fork.*—August 1, 1865.—In this device the grasping tine and handle are formed in one piece pivoted to the fork head, and said grasping tine extends beyond and below the fork tines, so as to prevent their catching while being elevated. These features, in connection with various combinations which will be understood from the claim, constitute the invention.

Claim.—First, constructing the fork with a head A and tines *a*, and with an upper grasping tine or tines C', substantially as and for the purpose set forth.

Second, making the handle C C' of a hay-fork, which is constructed with a head A and tines *a*, to serve the twofold purpose of a handle and a grasping tine, substantially as described.

Third, extending a combined handle and tine C C' from a pivot on the inner or front side of the head A of a fork, substantially in the manner and for the purpose described.

Fourth, the combination of the tines *a*, head A, pivot *e*, combined handle and tine C C, and pivoted loop D, substantially in the manner and for the purpose described.

Fifth, the combined handle and tine C C, formed substantially as represented in Fig. 4, in combination with the fork A *a*, substantially as set forth.

Sixth, the combination with a fork, constructed with a head A and tines *a*, of one or more upper grasping tines C and a locking and tripping device, substantially as and for the purpose set forth.

Seventh, so constructing or applying one or more grasping tines or teeth to a fork that the ends of said grasping teeth swing down below and in front of the tines *a* of the fork, and thus serve the twofold purpose of confining the hay upon the tines *a* and of a guard for protecting the tines *a*, substantially as set forth.

No. 49,084.—DEXTER H. CHAMBERLAIN, Roxbury, Mass.—*Hand Stamp.*—August 1, 1865.—The surface of the type is brought parallel to the surface which receives the impression by operating a screw nut, which loosens or tightens the arm bearing the type block, this arm being supported by and turning freely within a standard rising from the base of the stamp, so as to hold it securely in any position when inserting or removing type.

Claim.—Supporting the arm C, which carries the type block, in such manner as to allow of its adjustment, substantially as and for the purpose set forth.

Also, supporting the type block by a pin *t* passing into or projecting from it, substantially as described.

Also, the slotted bearings *n*, through which the inking ribbon *e* is slipped upon the rods *d*, substantially in the manner and for the purpose set forth.

No. 49,085.—CHARLES CHEVALLIER, Brooklyn, N. Y.—*Door Bolt.*—August 1, 1865.—In this device the shank of the bolt is provided with teeth, which are worked by corresponding teeth on the end of a lever projecting upward; and shutting flush into the case upon the inner ide of the upper end is a catch, which is taken hold of by another catch upon a bell crank

operated by a spring above the lever; and flush with the case is a button with a stem resting against the upper arm of the bell crank, which, being pushed in, releases the catches, when a spring behind the lever throws it out. It is further pushed down by the hand to draw the bolt.

Claim.—A bolt the shank of which forms a toothed rack, and which operates in combination with a folding lever C, spring catch D, and button E, substantially as and for the purpose set forth.

No. 49,086.—WILLIAM F. CONVERSE, Harrison, Ohio.—*Railroad Car Spring.*—August 1, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The collet G in the described combination, with a centrally clamped disk spring.

No. 49,087.—C. W. CORR, Carlinville, Ill.—*Gang Plough.*—August 1, 1865.—In this invention two or more ploughs attached to a frame are mounted on wheels having independent crank axles, in such a manner that they can be adjusted at will independently; and also in a method of attaching the ploughs, so that they can be adjusted at will independently, or thrown entirely out of the ground.

Claim.—First, the crank axles C provided with the hole, or its equivalent, as shown and described.

Second, receiving the ploughs by means of the clip *b* and brace *f*, substantially as shown and described.

Third, the combination of the plough standards *a*, stirrups *d*, and lever N, all arranged to operate as and for the purpose set forth.

Fourth, attaching the independent crank axle C, one above and one below the main frame, as shown and described.

Fifth, the stirrup or guide V in combination with the bolt *p* and stud *p'*, for the purpose of adjusting the tongue laterally, and at the same time permit it to have a vertical movement, as and for the purpose set forth.

Sixth, the foot lever W arranged to operate in connection with the tongue and main frame, with its front end working in the slotted bolt X, as and for the purpose set forth.

Seventh, the slotted bolt X' in combination with the slotted wedge *x*, for the purpose of adjusting the parts, as shown and described.

No. 49,088.—J. A. CREVER and F. H. KERNEY, Cincinnati, Ohio.—*Cider Mill.*—August 1, 1865.—This machine consists of two cylinders of different diameters, one inside of the other, and made to gear around their upper edges, and the outer surface of the inside cylinder touching at one point the inside of the outer cylinder, so that the fruit, being fed into the crescent-shaped space, is carried to the point where the two cylinder surfaces meet and is there crushed, the juice expressed, when it runs out of the bottom of the mill through small apertures, and the pomace goes forward and is scraped off, and falls through another aperture in the bottom plate of the mill.

Claim.—The employment in a crushing and expressing mill of a cylindrical concave D revolving in partial contact with a smaller and interior cylinder or roller F, in the manner and for the objects substantially as set forth.

No. 49,089.—WILLIAM H. CULP, Hammondsville, Ohio.—*Lamp Chimney.*—August 1, 1865.—This invention consists in the combination of a glass shade and metallic chimney, with a metallic rim and guards.

Claim.—First, the glass shade A, metallic chimney B, metallic rim C, and guards D, the whole being constructed, arranged, and operating as described.

Second, the metallic rim C, constructed, arranged, and operating substantially as described.

No. 49,090.—G. L. CUMMINGS, New York, N. Y.—*Carriage Jack.*—August 1, 1865; antedated July 26, 1865.—This invention consists in the use of an elbow lever provided at the end of its short arm with a friction roller in combination with a slide moving vertically in suitable guides, so that by turning the long arm of the elbow lever down the friction roller is caused to act on the end of the slide, and the latter is forced up with little loss of power by friction, and when the long arm of the lever has arrived in a horizontal position, the short arm retains the slide automatically, without requiring any fastening. An adjustable rest is used, in combination with a vertically moving slide, so that the jack can be readily set for wheels of different heights.

Claim.—First, the combination of the frame A B, elbow lever D, friction roller *e*, and sliding bar C, all constructed, arranged, and employed in the particular manner herein described, so that the short arm of the lever can be thrown into or beyond a vertical position, and thus sustain the weight without fastening the hand lever.

Second, the combination of the adjustable rest E and vertically moving slide C, when constructed and arranged to operate as herein specified.

No. 49,091.—VOLNEY CUTTER, Cincinnati, Ohio.—*Shuttle Driver for Sewing Machine.*—August 1, 1865.—The object of this invention is to avoid the violent concussions of the shuttle against the horns of the carrier when the machine is worked rapidly, and to prevent their being pounded and injured so as to need frequent repair.

Claim.—The spring *d* and its central bearing pin in combination with the pivots *c*, horns or tappets *a a*, and pins *e e*, as described, and for the purpose explained.

No. 49,092.—VOLNEY CUTTER, Cincinnati, Ohio.—*Shuttle for Sewing Machine, &c.*—August 1, 1865.—This invention consists in providing spring bearings for both journals of the bobbin of a shuttle, and is designed chiefly for use in sewing machines.

Claim.—The combination and arrangement of the spiral springs with the bearings of the bobbin journal, for the purpose of producing the requisite friction to prevent the thread from being paid out faster than is needed, as specified.

No. 49,093.—SAMUEL DARLING, Bangor, Maine.—*Inkstand.*—August 1, 1865.—A hollow sphere, provided with an opening for the passage of the pen, lies in a concavity or socket formed concentrically within a dish. Above the opening for the pen is a small air-hole which is opened when filling the inkstand. A spring extending from the bottom of the sphere around its back to the top holds the same in any position.

Claim.—The combination of the concave socket *a*, and the friction spring C, with the ink fountain A, and its stand B, such ink fountain being capable of being revolved within the said socket, as and for the purpose hereinbefore explained.

Also, the combination of the niche *f*, the fountain A, the stand B, and the spring C, whereby the spring is made to answer the two-fold purpose of a cover to the ink and a means of holding the fountain in its seat, under circumstances as above specified.

Also, the combination of the groove *n* and the studs *o p*, or their mechanical equivalents, with the pressure spring C and the fountain A, so applied to the stand as to be capable of being revolved therein, substantially as specified.

Also, the arrangement of the ventilating stopper *k* and the vent hole *i* for its reception with the ink *f* and the fountain A, the whole being substantially as set forth

No. 49,094.—H. B. DART, Westfield, Mass.—*Vise.*—August 1, 1865.—This invention consists in furnishing the inside of the jaws of an ordinary vise with a set of supplemental jaws, consisting of three vertical plates, two of which are inserted in seats prepared for them in the stationary jaw with a space between for the passage of the other, which is inserted in the sliding jaw. These plates extend from the lower edge of the face of the ordinary jaws to the slide, and their contiguous ends are V-shaped and serrated for the better holding of any cylindrical body placed between them.

Claim.—A vise provided with the usual parallel jaws, and with the oblique-faced or V-recessed jaws, combined and arranged substantially as set forth.

No. 49,095.—MOSES DEPUY, Pittsburg, Penn.—*Reciprocating Propeller.*—August 1, 1865.—In this invention the propeller has movable floats, which are submerged, and which, after the effecting stroke, return edgewise through the water. The floats are hung upon reciprocating rods, moving in the direction of the piston rods of the steam engines as continuous parts of them. The reversing apparatus consists of horizontal rock bars, which, turned by levers, cause projections upon them, as keys, to act upon cams, and these change the position of certain lock bars acting as stops.

Claim.—The employment and use of a swinging propeller, attached to and operating directly on a line, or nearly so, with the piston of the engine, without the intervention of a crank, combined with a sliding frame working in an overhang attached to the outside of a vessel, when constructed, arranged and operating substantially in the manner and for the purpose herein set forth.

No. 49,096.—C. DUCKWORTH, Mount Carmel, Conn.—*Harness Motion for Power Loom.*—August 1, 1865.—The object of this invention is to obtain a uniform pitch or motion of the "shed," whichever of the heddles may be brought into action, by so applying upon their shaft the knives which operate the hooked rods that one end of each knife shall have a lifting motion imparted to it, independently of the opposite end.

Claim.—First, the employment of a loose cross arm *c'* upon the rock shaft *c*2, in combination with the knives *a a* and fixed cross arm *c*, substantially as described.

Second, the double-acting pitman rods F F', the former being connected to the rock shaft *c*2, and the latter being connected to the loose arm *c'*, substantially as described.

Third, the slotted adjustable guide *a*3, in combination with the projection *a*2 on the knife *a'*, substantially as described.

Fourth, the specified construction, arrangement, and combination of the closers *b b'* and knives *a a'*, when the latter are operated as described, for the purpose set forth.

No. 49,097.—RICHARD DUDGEON, New York, N. Y.—*Hydraulic Jack.*—August 1, 1865.—This invention relates to an improvement on a patent of 8th July, 1851, to the said Dudgeon, and is designed to correct the top-heaviness of the jack by changing the arrangement of the cistern and plunger; to diminish the length of the jack and the expense of its construction, and enable it to take hold of irregular bodies to be lifted by the jack at or near the level on which it stands. All these advantages arise from arranging the bottom of the cistern on a level with the bottom of the ram cylinder and projecting the cylinder out sideways from the cistern.

Claim.—First, the arrangement and construction of the cistern pump chamber and ram cylinder, in the manner herein described and for the purposes set forth.

Second, the relative arrangement of the pump-chamber cistern, and upper aperture of the cistern, whereby the pump chamber, although situated within the cistern and made in one piece with it, may nevertheless be bored out and have its plunger applied and removed as set forth.

Third, the combination and arrangement of the rod within the plunger for tripping the valve, substantially as described.

Fourth, the arrangement of the pump cylinder within the cistern and between two apertures closed by bonnets as described, so that the eduction valve may be applied and removed from the under side of the cistern and the pump plunger may be applied and removed from the upper side of the cistern, as set forth.

No. 49,098.—J. HYDE FISHER, Chicago, Ill.—*Refrigerator or House for Preserving Animal and Vegetable Substances.*—August 1, 1865.—This invention consists in constructing the ice, meat, and vegetable chambers, and forming a communication between them, in such a manner that the warm air from the meat and vegetable chamber will not come in contact with the cold air which descends from the ice chamber, but will be carried off through a suitable flue, with all the vapors and gases.

Claim.—The spaces *a a* at the sides of the flooring D, between the upper and lower compartments B C of the house, in combination with the aprons H H, flue F, and ventilator G, all arranged substantially as and for the purpose set forth.

Also, the enclosed water-proof flooring D, provided with side strips *a*, and a spout E, for the purpose specified.

No. 49,099.—LEANDER FOX, New York, N. Y.—*Diagrams for Testing the Value of Mutilated Currency Notes.*—August 1, 1865.—This invention consists in the use of diagrams on some transparent material which is provided with lines and spaces, so that by placing them upon the mutilated notes the deficiency may at once be detected.

Claim.—The transparent diagrams lined and spaced as herein described, and for the purposes set forth.

No. 49,100.—E. L. GAYLORD, Terryville, Conn.—*Lock for Piano.*—August 1, 1865.—This invention consists of two curved bolts, pivoted to a common centre, and operated by the key through the medium of a tumbler plate, which, describing the arc of a circle, passes through a plate screwed upon the lower surface of the lids of the piano.

Claim.—The two segment bolts arranged so as to work from a common centre and operated through the medium of the tumbler connected with them, substantially in the manner as and for the purpose herein set forth.

No. 49,101.—CHARLES T. GIBSON, Baltimore, Md.—*Lock.*—August 1, 1865.—In this lock the hasp falls over and embraces a stub upon the face of a projecting portion of the lower plate of the lock case, and is held there by a plate or latch, which, being hinged to the extremity of the lock plate, passes over the hasp and stud and has its free end locked by a lock bolt, projected and otherwise operated by a key in the usual manner.

Claim.—First, a lock which is provided with a movable sealing bar C and tongue S, adapted for securing a hasp, or its equivalent, upon the frame of the lock outside of the case thereof, substantially as described.

Second, the swinging bar C, in combination with a tongue S and extension B2 of the lock case, substantially as described.

Third, constructing the laterally swinging bar C with a tongue *d'* on its free end, in combination with a spring bolt *e*, substantially as described.

Fourth, applying the tongue S which receives the hasp D to the extension B2 of the lock frame, in combination with a bar C and latch or bolt *e*, substantially as described.

No. 49,102.—ALBERT GILMAN, Charlestown, Mass.—*Feathering Paddle Wheel.*—August 1, 1865.—In this invention the feathering paddle wheel is provided with a ring guide or track, fastened to the vessel's side. There are arms to the floats, having pins, which travel in the ring guide, and by this the floats are guided in position, or feathered.

Claim.—The stationary ring guide or track *c c* fastened to the side of the vessel for the purposes set forth, substantially as described.

Also, in combination with the rocking or rotating paddles, provided with arms *a* rigidly fastened to the paddle axles *b*, the fixed or stationary ring guide or track *c c* in which the pins or pivots of the arms travel to govern the position of the paddles.

No. 49,103.—JOHN S. GOULD, Allegheny, Penn.—*Stirrup.*—August 1, 1865.—This invention consists in providing a joint in each side of a stirrup in combination with a movable roller in the top, so arranged that the foot of the rider can in no event be caught or retained therein.

Claim.—The combination of the roller A with the joints B, constructed, arranged, and operating substantially as herein described and for the purpose set forth.

No. 49,104.—JOEL A. HALL, Keokuk, Iowa.—*Cotton Chopper, Cultivator, and Drill.*—August 1, 1865.—In this invention the peculiar feature consists in the manner of attaching and adjusting the hoes in various positions, the guide plate and hinged cutters, and the mode of operating the same by means of adjustable handles.

Claim.—First, in connection with a frame A, the adjustable handles B C, arranged and operated as above described and for the purpose set forth.

Second, the clamp frame *f*, hoe *g*, and adjusting segment *g*, combined as above described.

Third, the combination of the plough-share, or point *v*, guide blade *w*, and pivoted wings *x x'*, substantially as and for the purpose set forth.

Fourth, the plough-share *v*, cutting blades *x* and *x x'*, and adjusting rod *y y'* and *y''*, arranged as above described and for the purpose set forth.

Fifth, the arrangement of the hopper *r*, distributing spout S, with the cultivator, in the manner and for the purpose described.

No. 49,105.—JAMES A. HAMER, Reading, and THOMAS LIPPINCOTT, Philadelphia, Penn.—*Brick Mould.*—August 1, 1865.—This invention consists in a combination and arrangement of levers and parts attached to the same, so as to effect the expansion of the compartment of the mould and elevate its bottom, to assist in the discharge of the bricks.

Claim.—First, the combination and arrangement of the levers J J, and the rods H H and I I, with the side pieces B B, and end pieces C C, of the combined mould, for the expansion and contraction of the said pieces B B, and partitions D D and D' D', substantially in the manner and for the purposes above set forth.

Second, combining the rods K with the end pieces C and side pieces B, for opening and closing the said end pieces, substantially as described and for the purpose specified.

Third, the combination of the lock strips M with the side pieces B B and partitions D D, substantially in the manner and for the purpose above described.

Fourth, the combination of the levers J J with the lock strips M, by means of the cams *n*, sliding pieces O P, and bell cranks *a*, substantially as described and for the purpose specified.

No. 49,106.—CHARLES HEATON, New York, N. Y.—*Process for Disintegrating Vegetable Fibres.*—August 1, 1865.—This invention consists in submitting bamboo or cane to the action of steam, under a pressure varying from fifty pounds to one hundred and eighty to the square inch. The heat is then withdrawn and the pressure allowed to subside gradually; the cane is taken out and placed in a solution of caustic alkali of two degrees Beaumé and a temperature of 90° Fahrenheit. The cane is then removed and strained and passed through heated rollers. It is then dried, and the gum is separated by beating. The cane is then treated with a weak alkaline solution, washed and dried.

Claim.—The process herein described of treating vegetable fibre by subjecting it for a short time to a high degree of heat without the presence of alkali, and afterwards immersing it in an alkaline solution at a lower temperature.

No. 49,107.—JOHN L. HILLS, New York, N. Y.—*Railway Chair.*—August 1, 1865; antedated July 21, 1865.—The object of this invention is to obtain a chair for railroad rails which will admit of a vertical working or play of the rails and sleepers without causing the chair to be loosened or the rails to get misplaced; also to prevent the rails from spreading apart laterally, a contingency of frequent occurrence in curves, owing to the lateral pressure of car wheels against them.

Claim.—In combination with the wrought-iron chairs C *a b*, the brace bar E, extending from chair to chair, and held in notches between the abutting ends of the rails, as herein shown and described.

No. 49,108.—WILLIAM HUGHES, Bloomington, Illinois.—*Tempering Steel Springs.*—August 1, 1865.—This invention consists in coating the springs with soap, then heating them until they are red-hot; they are then plunged into a bath composed of common salt, sal ammoniac, borax, copperas, and rain-water.

Claim.—First, the within described process of hardening cast-steel springs, by first coating them with soap, or its equivalent, before heating, and cooling them off, as before described.

Second, the hydrated solution, above set forth, and composed of the ingredients herein specified, for the purpose of hardening springs or other cast or spring steel.

No. 49,109.—PHILIP HURM, Hamilton, Ohio.—*Wood-bending Machine.*—August 1, 1865.—This invention consists in an arrangement of devices whereby the wood is bent over the former and held in place by a metal strap fixed to a strain bar at one end, and having a shackle or clevis at the other, through which the wood is passed, and when bent is held in place by wedges driven under pins in stirrups, and other wedges driven between the wood and the clevis.

Claim.—The former A, stirrups E, key F, shear bars D I, bolt J, pins G, and wedges O, arranged and operating together substantially as described.

No. 49,110.—WILLIAM L. HUTCHINSON, Burlington, Iowa.—*Trace Trimmer.*—August 1, 1865.—This invention, relating to a machine for trimming traces, consists in the combi-

nation of two self-adjusting springs, one lateral and the other vertical, and provided with an adjustable cutter.

Claim.—A device for trimming traces and other straps, constructed and operating substantially as herein shown and described.

No. 49,111.—HANFORD INGRAHAM, Naples, N. Y.—*Cultivator.*—August 1, 1865.—In this invention the shafts are firmly attached at their rear ends to the cross-piece of the frame. The arms are elevated and depressed at will upon standards on the front cross-piece. Shafts are secured at any height by a set screw, working in the slotted standard.

Claim.—The transverse beams A and B, and centre forward beam *a*, in connection with the knee braces C, as constructed and arranged, substantially in the manner and for the purpose set forth

No. 49,112.—H. L. ISHAM, Plattsburg, N. Y.—*Light Wagon.*—August 1, 1865.—In this wagon all the running gear is made of iron, with the exception of the wheels. The ends of the lower plate of the springs are notched and secured between plates on the bolster. A safety strap extends from under the centre of the springs to their forward end, being held by the same bolts that pass through the centre of the springs.

Claim.—First, the securing of the ends of the leaves *a* of the springs to the bolster and axle, in the manner substantially as herein set forth.

Second, in combination with the leaves *a*, secured as hereinbefore specified, the safety straps G, attached to the bolster by dovetail plates *d'* and grooves *c'*, in the manner described.

No. 49,113.—H. JACKSON, New York, N. Y.—*Padlock.*—August 1, 1865.—In this lock there is a sliding plate, which carries the bolt, and also a horizontal spring lever for ejecting the hasp and for holding the plate back in the position to which it may have been moved by the key. A spring tends constantly to force the plate forward so as to lock the hasp, and when so operated the plate trips a dog, the tooth of which enters the mortise of the hasp simultaneously with the bolt, but from the opposite side. When unlocked, the plate is held immovable by the lever until the shackle is again forced in, and which, bearing upon the end of the lever, disengages a shoulder upon it from a fixed stub, and permits the plate to spring forward so as to again lock the hasp.

Claim.—The sliding frame C, provided with the bolt D and lever E, with the spring F bearing against the latter, the lever being notched at its upper edge to catch against the projection *e* at the upper part of the case, substantially as and for the purpose set forth.

Also, the pivoted catch G, connected with the frame C, as shown, to operate simultaneously therewith, for the purpose specified.

No. 49,114.—ANDREW JAMISON, Taylorstown, Penn.—*Water Wheel.*—August 1, 1865.—This invention consists in an overshot wheel, arranged to receive the impact of the water on the upper front part of the bucket when falling upon a transverse board. The water flows into the inner or lower part of the bucket in advance, where its gravitating force operates, the floor upon which it first falls in each bucket serving to retain it until it has reached the lowest point in the revolution of the wheel.

Claim.—Constructing the buckets of an overshot water wheel in two parts F F', the former F being so arranged as to contain or hold the water so that it can act upon the wheel by gravity, while the latter F' are provided with openings *c*, and so arranged as to admit of the water acting upon or against them by impact, and then allowing it to pass into the inner parts F of the buckets below, substantially as described.

No. 49,115.—CHARLES E. L. JELLIFFE, Williamsburg, N. Y.—*Blacking-box Holder.*—August 1, 1865.—This invention consists in forming or attaching to the outside of the bottom plate of the box, either by striking up or punching, or by soldering, a separate and independent piece thereto, a hollow clasp or socket made open at both ends, so that a handle can be inserted to hold the box.

Claim.—A blacking box, having a handle or holder attached thereto, substantially in the manner described and for the purpose specified.

No. 49,116.—NATHANIEL JENKINS, Boston, Mass.—*Valve Cock.*—August 1, 1865.—In this invention a set screw adjusts the descent of the valve follower, so that its pressure upon its seat may be uniform, or adapted to the necessity of the case.

Claim.—The employment of an adjustable stop or regulator N, or its equivalent, in combination with the follower of a valve cock, substantially as set forth and for the purpose set forth.

No. 49,117.—DAVID J. JONES, Sadsbury, Penn.—*Grain Drill.*—August 1, 1865.—In this invention the seed slides are moved by a pitman lever, attached directly to the bent arms of the axle. The rotation of a shaft in the rear, by means of two sets of cords, both pulls forward and upward the drill tooth, and backward and upward the coverer which follows.

Claim.—First, the slides M, with their openings *y y*, adjustable plates N, combined with the hoppers I, and operated substantially as and for the purpose specified.

Second, the crank axle E′, levers P, slides M, combined and operating substantially as described.

Third, the levers P with the pins *m*, and the slides M with the notches *x*, constructed and operating in combination with the levers K, substantially as and for the purpose set forth.

Fourth, the drums I, with their cords *b* and *d*, operating in combination with the drill feet G and bevelling plates J, substantially as specified.

Fifth, the drill foot G, hung to the frame, and combined with the cord *t*, as and for the purpose specified.

No. 49,118.—ISAIAH T. JONES, Sandwich, Mass.—*Boot and Shoe.*—August 1, 1865.—This invention consists in bevelling under the inner surface of a wearing strip or iron piece, to aid in retaining the filling of leather, and allow the pegs to be placed very near the edge, the whole combined with thin lugs extending from inward under the filling piece of leather.

Claim.—Bevelling under the inner surface of the part B, so as to aid in retaining the filling D, and to allow the pegs or equivalent fastenings E to be placed very near the edge, in combination with the thin lugs or parts B′, extending inward from B, under the filling piece D, substantially as and for the purpose herein set forth.

No. 49,119.—JOHN F. JONES, Rochester, N. Y.—*Machine for Making Paper Board.*—August 1, 1865.—The claim and engraving define the character of the improvement, whose object is to make paper board of continuous length.

Claim.—First, the combination of an open wire mesh or perforated cylinder B, wire apron E, and pressure rollers D D, for forming paper board in a continuous or indefinite length, substantially as set forth.

Second, in paper-making machines, the combination of the suction box or boxes composed of the rollers I I and K, operating substantially in the manner and for the purpose herein set forth.

No. 49,120.—FRANCIS KELLER, New York, N. Y.—*Sofa Bedstead.*—August 1, 1865.—This invention consists in an arrangement of parts designated in the claim, by which a sofa is readily converted into a bedstead, and as easily restored.

Claim.—The combination of the back C, seat *a*, flaps E, hooks *e*, hinges C *b f*, when contructed and arranged as and for the purposes herein specified.

No. 49,121.—PHILIP H. KIMBALL, Prophetstown, Ill.—*Corn Planter.*—August 1, 1865.—The nature of this invention consists in a peculiar construction of runners and coverers independent of each other and the main frame, whereby a furrow is opened into which the seed may fall, which furrow is not only broad enough to allow the seed a proper separation, but is also flat upon its bottom, and impacted by the passage of the runners over it.

Claim.—First, the peculiarly shaped runners or shoes L L, constructed and arranged specifically as described, for opening a furrow and covering the seed therein, substantially as herein set forth.

Second, so combining the runners L L with the weighted levers N N connected to the framework thereof as that each runner and coverer may, under an adjustable degree of pressure, act and operate independently of the other, substantially in the manner and for the purpose herein set forth.

Third, in combination with the seed-slide N, the pinions *h h*, operating against the edge thereof, substantially as and for the purpose herein set forth.

Fourth, in combination with the pivoted roller-scrapers A and the platform and driver's seat, as described, the foot-lever R, for the purpose of operating said scrapers, substantially in the manner herein set forth.

No. 49,122.—JOHN LOPER KNOWLTON, Philadelphia, Penn.—*Machine for Rounding and Polishing Balls.*—August 1, 1865.—This machine consists of a suitable frame supporting four horizontal shafts in the same plane, and at right angles to each other. On the inner end of each shaft is a concave chuck, and between each pair of opposite ones the ball is clasped by means of a slight longitudinal movement towards each other, and rotated first by one pair and then by the other, thus alternately turning the ball in one direction, and then at right angles thereto, so as to present all parts of the surface to the grinding or polishing wheel, which is hinged on a frame below.

Claim.—First, the method herein described of imparting to the ball while being ground or turned, an intermittent rotary motion in two or more directions by means of four (more or less) longitudinally sliding rotary mandrels D D′ radiating from a common centre and provided with chucks at their inner ends, or any other equivalent means, constructed and operating substantially as and for the purpose set forth.

Second, the combination of four (more or less) chucks E E′ made to grasp the work at stated intervals with a grinding wheel or milling tool, applied and operating substantially as and for the purpose described.

Third, the combination of the segmental rack C, pinion *d*, shaft *e*, and weighted lever *f g*, arranged and operating in connection with the pivoted frame G and polishing wheel F in the manner described, to regulate the pressure of the said wheel against the ball to be polished.

Fourth, the cams *o p* and toes *s t* in combination with the carriages C C′, chucks E E′, and weighted levers *s*9 *t*8, or their equivalent, constructed and operating substantially as and for the purpose described.

No. 49,123.—O. B. LATHAM, Seneca Falls, N. Y.—*Drill for Well Boring.*—August 1, 1865.—This invention relates to a reamer and drill combined in one tool, whereby the well is drilled and reamed out at the same time.

Claim.—The adjustable reamer C in two sections, the screw *e*, plates *c*, the key and gibs, in combination with the drill and shank, arranged and operating conjointly, substantially as and for the purpose set forth.

No. 49,124.—HENRY A. LEE, Worcester, Mass.—*Journal Box.*—August 1, 1865.—The object of this invention is to adjust the journal box by means of set screws and tightening screws to the journals, the screws being placed within one of the shells or halves of the journal box.

Claim.—The application to journal boxes of the set screws, D, within one of the shells or halves of which the journal box is composed, substantially in the manner and for the purposes specified.

No. 49,125.—DAVID LISTER, Carbondale, Penn.—*Steam Boiler.*—August 1, 1865.—This invention consists in the employment of a perforated pipe, arranged as close as practicable to the bottom of the boiler, and extending to all those parts where sediment is likely to collect, in such a manner that when a stop-cock at the end of the pipe is opened, the pressure of the steam upon the water causes a rapid current through each of the perforations, and the sediment is carried off with the water.

Claim.—A pipe B arranged near to the bottom or to that surface of a steam boiler from which the sediment is to be removed, and perforated with a number of holes *a*, in the manner and for the purpose substantially as herein shown and described.

No. 49,126.—DANIEL LOTT, Lottsville, Penn.—*Revolving Car.*—August 1, 1865.—A cylindrical receptacle is attached to an axle supported in a frame by two wheels, which run loosely on the axle to allow them to turn more easily. Each frame has a tongue, and two or more cars can be attached to each other.

Claim.—The rolling receptacle A mounted by a horizontal shaft B upon wheels C, which run freely upon the said shaft, and drawn by means of a frame in which the ends of the said shaft are journalled.

No. 49,127.—THOMAS LOUD, Philadelphia, Penn.—*Musical Instrument.*—August 1, 1865.—This invention is explained by the claim.

Claim.—The use of a rail placed in front of the key-board of a reed organ, melodeon, or other musical instrument, and connected with the device or devices usually employed therein for covering the chamber containing the reeds or other devices used for producing musical sounds, arranged and operating substantially as herein described and for the purposes specified.

No. 49,128.—HORACE W. LOVE, Brooklyn, N. Y.—*Screw Wrench.*—August 1, 1865.—In this device the shank of the sliding jaw moves in a dovetailed groove made in the shank of the stationary jaw attached to the handle. This sliding jaw is operated by a screw lying in line with and between the shanks of the jaws, and turning in a collar on one and a nut on the other.

Claim.—A single diagonal adjustable screw wrench, constructed and capable of operating substantially as described.

No. 49,129.—JOHN M. MAY, Janesville, Wis.—*Drill.*—August 1, 1865.—The nature of this invention is fully explained by the claim and engraving.

Claim.—First, bevelling the bit or cutting edge of a drill all on one side, or chiefly on one side, to give the drill a slightly rotating motion in a horizontal direction at each blow of the drill, substantially as described.

Second, a swivel formed of parts E E and G, when used to allow a drill or a punch drill to revolve in the path of a horizontal direction, substantially as described.

Third, using a spring guide to catch pieces of rock and other substances that fall into a drilled well and obstruct the operation of a drill, substantially as and for the purposes described.

Fourth, a screw or strainer when used in a pump drill, substantianlly as and for the purposes described.

No. 49,130.—EDWARD MAYNARD, Washington, D. C.—*Breech-loading Fire-arm.*—August 1, 1865.—Through or in the cone seat or recoil block of a breech-loading fire-arm is an outlet to allow of the free escape of gases leaking from the cartridge or gun barrel at the explosion of the charge. A movable cone seat is combined with a central recoil rod and the loading aperture of the breech.

Claim.—First, the formation of an outlet in or through the cone seat or recoil block of breech-loading fire-arms to permit the free escape of gases leaking from the cartridge or gun barrel at the explosion of the charge therein, substantially in the manner herein set forth.

Second, the use and combination of a central recoil rod B with a movable cone seat A, and the loading aperture of a breech-loading gun, substantially in the manner and for the purpose herein set forth.

No. 49,131.—EDWIN D. MCCRACKEN, New York, N. Y.—*Manufacture of Felted Fabrics.*—August 1, 1865.—This invention consists in mixing from 33 to 50 per cent. of reed or cane fibre with wool or fur used in the manufacture of felted goods.

Claim.—The use of the fibre of cane or reed in combination with wool or fur, or with both wool and fur, in the manufacture of felted goods, substantially as herein described.

No. 49,132.—THOMAS MCILROY, New York, N. Y.—*Surgeons' Operating Table.*—August 1, 1865.—This invention consists of a table formed of several parts so combined together as to be capable of adjustment to afford a support to the patient in any position.

Claim.—First, the table hinged to and supported upon the frame A and provided with a hinged portion B′ and hinged leg extensions E E′, each section, to wit, B B′ E and E, being provided with devices for vertical adjustment, substantially as described.

Second, the laterally adjustable leg extension, by means of the pivot-joint F, to support the leg in its laterally deflected position.

Third, in combination with the table B the hinged back support I J, with its device for vertical adjustment, substantially as described.

No. 49,133.—JOHN A. MERRIMAN, Chicago, Ill.—*Machine for Cutting Screws.*—August 1, 1865.—This invention can only be understood by reference to the description and drawings.

Claim.—First, closing dies by the use of the lateral sliding bearings K acting directly upon the dies by means of inclines, operating substantially as and for the purposes herein specified.

Second, the sliding bearings K, the levers *i*, and the dies *g*, all arranged and operating substantially as and for the purposes herein set forth.

Third, the latch or strap *p* in combination with the sliding bearings *k* and the dies *g*, substantially as herein shown and described, for the purpose set forth.

No. 49,134.—JOHN M. MERRYMAN and KILBY FERGUSON, Indianapolis, Ind.—*Mode of Hoisting and Lowering Window Sash.*—August 1, 1865.—This invention consists in the arrangement of pulleys, cord, and a windlass upon one side only of the sash or window frame, whereby both the window sashes may be raised or lowered.

Claim.—First, in combination with the upper and lower movable sash of a window a cord, windlass, and pulleys, or equivalent devices, so that the said sash may be raised or lowered at pleasure, and perfectly balanced when the windlass is fixed within the window casing.

Second, the combination of a cord, windlass, and pulley with the upper and lower sash of a window, or equivalent devices, so that the said sash may be raised or lowered at pleasure, and perfectly balanced when the windlass is attached to the lower sash.

Third, in combination with a hoisting and lowering device applied to one edge of a window sash the friction roller M M applied to diagonally opposite corners of said sash for the purpose set forth.

Fourth, in combination with the windlass A for raising and lowering window sash, and the ratchet and pawl B R, the friction brake D, substantially as described.

Fifth, the lock P, or its equivalent, in combination with the ratchet and pawl of the windlass A, for the purpose of facilitating the working of the upper sash, and for locking the window with the said upper sash at any desired point of elevation.

No. 49,135.—JOHN H. MONSEES, Smith City, Mo.—*Washing Machine.*—August 1, 1865.—This invention consists of a swinging plunger in combination with devices designated in the claim.

Claim.—The particular combination and arrangement herein described of the tub A, oblique plunger C, oscillating arms B, supporting bars *d*, lever frame D, inclined abutment *c′*, and guard boards D′ D″, as and for the purposes herein specified.

No. 49,136.—FRANCIS MORANDI, Boston, Mass.—*Summer Stove.*—August 1, 1865.—In this invention a perforated cover arranged upon the smoke-pipe fits into a boiler hole in a stove, by means of which the products of combustion flow from the summer stove into the stationary cook stove or range. Upon the horizontal part of this pipe is fixed a platform or heating surface, on which vessels to be heated may be placed.

Claim.—First, in portable summer stoves or furnaces arranging a perforated cover K upon the smoke-pipe so as to enable one to discharge the smoke into and use the stove with a kitchen stove or range without requiring any change in the latter, substantially as described.

Second, fixing a platform or heating surface H upon the horizontal part of the smoke-pipe, substantially as and for the purpose described.

Third, the combination of a summer stove or furnace with a platform or heating surface H on the pipe, substantially as described.

No. 49,137.—WILLIAM NEUBAUER, Philadelphia, Penn.—*Car Spring.*—August 1, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—Constructing a spring when made of plates or sheets of metal with the resilient parts on angles from the central position of the spring plates which compose the combined spring, and decreasing the length of the said resilient parts of each plate in order from the outer plates, for the purpose of increasing the strength of the spring and imparting increased elasticity to the same, substantially as described.

Also, varying the angles of the resilient parts of the spring in such a manner that there shall be spaces *b* extending over the whole surface of the spring plates between their points of contact, substantially as represented, for the purpose of giving increased elasticity to the spring, substantially as above described.

No. 49,138.—ABEL NEWBROUGH, Madisonville, Ky.—*Churn.*—August 1, 1865.—This invention consists in the combination and arrangement of the frame, pulleys, and adjustable connecting rods, whereby the latter may be lengthened or shortened at pleasure by changing the connecting bolt to suit the quantity of cream in the churn.

Claim.—The frame F, pulleys P P′, belt D, the crank B, and staff A and adjustment as shown at *b*, the several parts being constructed and arranged in relation to the churn C, as and for the purpose specified.

No. 49,139.—WILLIAM H. NICHOLS and HORATIO H. ABBE, Chatham, Conn.—*Lathe for Turning Heads of Nails, Tacks, &c.*—August 1, 1865.—This device consists of a mandrel, in the front end of which is a hole to receive the shank of the nail or screw, which is inserted therein and centred by being carried up to it by a cap on a horizontally swinging lever, the head of the screw being inserted in said cap, which is then withdrawn, leaving the nail head projecting from the mandrel. A sliding rest, in which is a cutter or tool of the form to give the head its proper shape, is then brought up, performs its work, and is allowed to be thrown back by a spring. A milling tool, attached to the outer end of a vertically swinging arm projecting from a rock shaft a proper distance above the mandrel, is brought down and mills the rim of the head of the screw. A sliding thimble on the head of the mandrel, operated by a lever, is then thrust forward against the edge of the head of the screw and disengages it from the mandrel.

Claim.—First, the employment or use of the cap J attached to the arm K, arranged substantially as shown, in such relation with the mandrel C to admit of the head being readily adjusted on the mandrel, as set forth.

Second, the combination of the cap J, milling tool T, cutter Q, and thimble H, all arranged and combined with a mandrel C to form a new and improved lathe, for the purpose specified.

No. 49,140.—GEORGE NIMMO, Jersey City, N. J.—*Moulding Crucible.*—August 1, 1865.—This invention consists in the mould being mounted in a revolving chuck, and in the employment of a rib attached to a lever for spreading plastic crucible material on the outside of the mould.

Claim.—First, manufacturing crucibles in a plaster mould, in the manner and for the purpose specified.

Second, the lever *l* and rib *n*, applied in the manner specified, to form the interior of a crucible contained within a revolving mould, as set forth.

Third, the combination of the revolving chuck *c*, plaster mould *d*, lever *l*, and rib *n*, as and for the purposes specified.

Fourth, mounting the lever *l* and rib *n* in the frame *g*, in the manner specified, in combination with the counterpoise *k*, fulcrum *o*, and stop *p*, for determining the size of the interior of the crucible, as specified.

No. 49,141.—GEORGE NIMMO, Jersey City, N. J.—*Manufacture of Crucibles.*—August 1, 1865.—This invention consists of a crucible made of plumbago and lined with clay, clay and sand, or other similar cheap material.

Claim.—A crucible or pot of plumbago, with a lining or coating of clay, or clay and sand, or similar material, for the purposes and as specified.

No. 49,142.—JAMES OLD, Pittsburg, Penn.—*Pipe Coupling.*—August 1, 1865.—This method of uniting pipes or tubes consists of a coupling formed in two sections and made of tubing of sufficient thickness to warrant a large and strong screw being formed on that end of each section which is to be joined to the other section, by screwing the reduced end of one

into the socket of the other, while the opposite end of each section is provided internally with much finer screw threads, which embrace correspondingly fine threads upon the thin tubes which are to be coupled together. The sections of the coupling are separately screwed upon their respective tubes and soldered to said tubes before being united to each other.

Claim.—The mode of connecting tubes or pipes of wrought-iron or other metal, (when so thin as not to admit of cutting screw-threads sufficiently coarse to be easily united,) by means of the use of a screw coupling, the male and female parts of which are united to the opposite ends of the pipe or tubing by a very fine screw in the pipe or tube and coupling, and soldered around the pipe or tube and coupling, substantially as hereinbefore described.

No. 49,143.—A. W. OLDS, Green Oak, Mich.—*Breeching Strap Fastening.*—August 1. 1865.—This invention consists in securing the fastening of breech straps to shafts of carriages by means of a hook, on one end of which the strap is looped, in combination with a fixed pin of the shaft, on which the hook is hung above, a spring bearing upward and against the hook.

Claim.—Securing the breeching straps to shafts of carriages by means of a hook, in one end of which the strap is looped, in combination with a fixed pin or staple of the shaft on which the hook is hung, arranged together and operating substantially in the manner described and for the purpose specified.

Also, in combination with the above, the use of a spring, substantially as and for the purpose specified.

No. 49,144.—ROBERT T. OSGOOD, Orland, Me.—*Bottle Stopper.*—August 1, 1865.—This invention consists of a metallic cap with a spiral screw firmly attached to its under side, which is to be attached to a cork.

Claim.—A concave cap, covering the whole upper portion of a common cork stopple, with a pointed spiral wire attached to, and within the cavity of, said cap firmly, for the purpose of passing down into, but not through, said cork, to aid in extracting it and to prevent the breaking of the same, as herein substantially set forth.

No. 49,145.—JOSEPH R. PALMENBERG, New York, N. Y.—*Stand for Ladies' Figures.*—August 1, 1865.—This invention consists of a stand made in several parts, secured with a screw, to fasten the figure to the stand. The legs are made detachable, so that the whole can be packed in a small compass for transportation.

Claim.—The arrangement and construction of a stand for ladies' figures and similar articles, made in parts in the manner described and for the purpose substantially as set forth.

No. 49,146.—GEORGE PALMER, Littlestown, Penn.—*Preserving Wood, &c.*—August 1, 1865.—This invention consists in a method for treating pump logs, &c. A cylinder of sheet iron, provided with guide rollers, is filled with burning coals and passed through the bore in the log until the moisture is removed. The log may be similarly treated on the outside at the same time. After the moisture is completely removed the pores of the wood are saturated with a hot resinous substance.

Claim.—First, the apparatus and mode of applying the same for heating the inner and outer surface of timber sufficiently to open the pores of the wood and extract the sap and gaseous matter, as herein described for the purposes specified.

Second, opening the pores of timber by applying heat, in the manner herein described, so that oily, resinous, or bituminous substances will penetrate the wood to its fullest capacity.

No. 49,147.—JOHN T. PEET, Cincinnati, Ohio.—*Composition for Frames.*—August 1, 1865.—This invention consists of a composition made by mixing brick dust, marble dust, or other suitable powder, with asphaltum or resin, while in a liquid state.

Claim.—The use of asphaltum or resin with any suitable powder, to the end and for the purposes substantially as set forth.

No. 49,148.—THEODORE G. PELTON, Lyons, Iowa, and JAMES BREWER, Albany, Ill.—*Lubricator.*—August 1, 1865.—The oil receptacle has two parts—a cup at the top, and a hollow globe midway of the valve stem. The lower section of the stem screws into the upper section within the globe, being operated by a winch above, a spiral spring around the upper part of the lower section, within the globe, serving to close the valve at the lower extremity or delivery, and a shoulder near the upper end of the upper section, within the globe, serving to close the throat between the cup and globe. By operating the winch, each or both of the valves may be controlled. The valve rod has three grooves along its length to permit the flow of the oil.

Claim.—First, making the valve stem for oil cups in two parts, when constructed, arranged, and operating substantially in the manner described.

Second, in combination with the valve stem, constructed substantially as described, the spiral spring L, and collar or pin P, as and for the purpose set forth.

Third, in combination with the stem, constructed substantially as described, the grooves *m*, as and for the purpose specified.

No. 49,149.—A. F. PFEIFER, Newark, N. J.—*Lock for Piano.*—August 1, 1865.—This lock contains two bolts, one straight, and operated by a key through the medium of a tumbler, and the other a short tumbling bolt, pivoted to the side of the straight one. The tumbling bolt has a lateral spur upon its edge near the upper end; and near the lower end, and projecting from the same edge, a curved arm, so constructed and arranged that when the straight bolt is being forced out by the key, the curved arm will come in contact with the plate forming the edge of the lock case, and, the straight bolt continuing to move out still further, the upper end of the tumbling bolt will be drawn over laterally, so that its spur will hook over and behind a plate screwed to the under surface of the piano lid.

Claim.—A lock, provided with a supplemental bolt E, pivoted to a sliding bolt B, and arranged to operate in connection therewith in the manner substantially as described.

No. 49,150.—BROWN PLATT, Pana, Ill., and NORMAN PLATT, St. Louis, Mo.—*Corn Seed Planter.*—August 1, 1865.—In this invention a revolving shaft with pins agitates the seed, and passes it through the hopper upon a belt, studded with nails. A second stirrer or roller conveys the seed from the belt to the dropping tube.

Claim.—First, the shaft M, armed with the pins W or their equivalent, revolving in the box L during the process of planting, in combination with the belt D, armed with the pins *x* or their equivalent, and the roller *i*, all acting for the purpose of stirring up the mass of seed contained in the box L, and preventing the same from remaining or becoming a compact mass.

Second, conveying the seed out of the box or reservoir upon a belt studded with metallic pins, or their equivalent.

Third, the armed wheel N′, revolving immediately in front of the belt as it turns over the pulley *j* to pull the seed off of it.

Fourth, the roller *i* attached to the box in the upper part of the orifice through which the belt passes through its front end, to prevent seed clogging at that point.

No. 49,151.—E. F. PRENTISS and R. A. ROBERTSON, Philadelphia, Penn.—*Apparatus for Mashing, Boiling, and Fermenting Grain.*—August 1, 1865.—The nature and object of this invention will be understood from the claim.

Claim.—First, the combination of the perforated malt supply pipe *a*, the surrounding casing *b*, and the double-rotating mixer *c* for mashing the malt, the whole arranged and operating substantially as shown and described.

Second, the combination of the adjustable pipe *d*2, with the pipe *d* leading to the centre of the bottom of the mash tub, and the distributor *d′* for the double purpose of admitting water to said tub when necessary, and for drawing off the wort therefrom.

Third, the sparger *e*, perforated as described and for the purpose specified.

Fourth, the combination and arrangement of the cistern B, pipe *f*, column *g*, and the perforated false bottom *i*, in the manner and for the purpose substantially as described.

Fifth, the employment of the conical perforated false bottom *i″* and chimney *i*, arranged and constructed substantially in the manner and for the purpose described.

Sixth, the combination of the boiler B, pipe *f* and column *g*, the latter having pipes *k* and *k′* for the entrance and exit of steam or heated water, or cold water, for alternately heating and cooling the contents of B, the whole constructed, arranged and operating in the manner and for the purpose substantially as shown and described.

Seventh, the combination of the solid wooden float O, with the return pipe *r*, these parts being constructed, arranged and operating substantially as shown and described.

Eighth, the employment of the cooling and heating vessel D in connection with the mercury cup *n*2, the inverted cup *n*3 and the system of levers, the several parts being constructed as shown, and the whole arranged and operating substantially in the manner and for the purpose described.

Ninth, the combination and arrangement of the mash tub A, boiling and cooling cistern B and fermenting tun C, in the manner described, for the purpose of mashing, boiling, cooling, and fermenting malt liquors.

No. 49,152.—ROBERT PRICE, Jersey City, N. J.—*Composition for Lining Petroleum Barrels.*—August 1, 1865.—This invention consists of a composition of two quarts of salt, twenty pounds of glue, ten pounds of hyposulphate of soda, ten pounds of sulphate of iron, and forty gallons of water.

Claim.—The preparation of barrels or other vessels for containing and transporting petroleum oil or other similar substances, substantially as described, and for the purposes set forth.

No. 49,153.—D. S. QUIMBY, Brooklyn, N. Y.—*Coal Stove.*—August 1, 1865.—This invention consists of a flue in the rear of a stove, communicating with the external air at the bottom, and at the top with a hot-air chamber, over which is a register so arranged that when the half opening into the room is closed, the half opening into the flue in the upper room is open, and *vice versa*. The draught can circulate down one flue at the side of the stove, round

the bottom, and up the corresponding flue at the other side, or can be made to flow directly by opening a damper in the direct exit pipe.

Claim.—The arrangement of the hot-air flue *o p* and box *q*, in combination with the heater *a* and flues *i k l*, as specified.

Also, the register *r*, fitted as specified, in combination with the hot-air box *q* and pipe *p*, for the purposes specified.

No. 49,154.—GEORGE P. REED, Roxbury, Mass.—*Watch Regulator.*—August 1, 1865.—To the index or pointer in this device is attached a curved spring, which circumscribes the balance springs; near its extremities are attached the spring studs, and a screw passing through the index bears against the spring in such a manner that after moving the index to the proper position, a turn of the screw will affect the studs so as to produce an accurate adjustment of the balance spring.

Claim.—The application of the curved spring *c* and its adjusting screw *f* to the pointer *b*, in combination with the application of the hair-spring pins or studs to the said spring *c*, the whole being substantially as and for the purpose explained.

No. 49,155.—GEORGE P. REED, Roxbury, Mass.—*Watch Escapement.*—August 1, 1865.—This invention consists in the combination of a movable detent at the end of a spring lever, attached to one end of the escapement lever, with a stop in the escapement lever, and a fixed detent, so as to operate with the scape wheel and the impulse pallet of the balance wheel.

Claim.—The combination of the movable detent *e* and the spring L and stop *p* with the lever D, carrying a fixed detent *o*, and arranged in manner and so as to operate with the scape wheel and impulse pallet of the balance wheel, substantially as specified.

No. 49,156.—HENRY C. REYNOLDS, Manchester, N. H.—*Manufacture of Axes.*—August 1, 1865.—This invention consists in a process of refining, shaping, and welding the steel bit of the axes to the poll by the same heat, by means of suitably formed dies attached to and worked by trip hammers.

Claim.—Reducing the edge of the axe to the form desired when it is finished for use, and refining the steel at the same heat; the steel is welded to the axe by means of dies *a b*, constructed and operated substantially as herein described.

No. 49,157.—E. S. RITCHIE, Brookline, Mass.—*Azimuth Compass.*—August 1, 1865.—This invention consists in an attachment to common mariners' or azimuth compasses, and is fully explained by the claim and engraving.

Claim.—The combination of the light-converging cylindro-segmental lens E, or its equivalent, with the limb or annulus A, or its equivalents, and its sights, to be used on a magnetic compass, in manner substantially as specified.

Also, the combination of the adjustable screen or shutter M, or its equivalent, with the light-converging lens E, combined with the fore sight of the annulus A or its equivalent, and for use substantially as hereinbefore specified.

Also, the combination of the reflector F, and the light-converging lens E or its equivalent, with the annulus A or its equivalent, and its fore sight or fore and back sights, to be employed on a compass, in manner substantially as hereinbefore explained.

Also, the combination of the indicators *g g*, with the auxiliary sight *s*, and the annulus A or its equivalent, its fore sight or fore and back sights, and the light-converging lens F, the same being as specified.

Also, the combination of the indicators *g g* with the two lenses *e f*, or the same and the auxiliary sight *s*, and with the annulus A or its equivalent, its fore sight or fore and back sights, and the light-converging lens E, the same being as specified.

Also, the combination of the indicators *g g* with the two lenses *e f*, the prism H, and the annulus A or its equivalent, its fore sight or fore and back sights, and the light-converging lens E, the same being as specified.

Also, the combination of the index mark *h* or its equivalent with the light-converging lens E, the annulus A, and the fore sight C, or the equivalent thereof, the whole being arranged substantially in manner and for the purpose specified.

No. 49,158.—J. J. ROSE, Elmwood, Ill.—*Machine for Upsetting, Cutting, and Punching Iron.*—August 1, 1865.—This invention consists in combining in a complete and portable machine a device for shearing metal, and a device for upsetting metal; all being of the ordinary forms of such devices, but so arranged by means of four levers, connected together, that by one operating lever the proper movement for each device is produced.

Claim.—Combining in a complete and portable machine a device for shearing metal, a device for punching metal, and a device for upsetting tires, the several devices being constructed and arranged substantially as described.

No. 49,159.—A. H. ROWE, Hartford, Conn.—*Sash Fastener.*—August 1, 1865.—In this device a small circular case is fastened to the door or sash, which contains the bolt and operating device. Through the center of the case runs a pin, which passes through a longitudi-

nal slot in the bolt and through the cam into the rear side of the case. The cam near the circumference of the case has a slot, into which a pin on the bolt projects; a slot is also made in the side of the case through which the knob stem works to turn the cam, which in turn works the bolt by means of the aforesaid pin or slot. When the cam is in position to admit of the bolt being forced out by the springs, it locks the bolt.

Claim.—The revolving slotted cam C, in combination with the case A and spring bolt B, constructed and operating substantially as and for the purpose set forth.

No. 49,160.—JOSEPH SCHNITZER, New York, N, Y.—*Photographic Lens.*—August 1, 1865.—This invention consists in the combination of a triple achromatic object glass in front, a double combination open-celled lens behind, with a set of changeable correcting lenses on a revolving disk between the two, so that the length of focus can be changed at will.

Claim.—First, a lens A, constructed of a triplet front lens B, and a double back lens C, substantially as herein set forth.

Second, the correcting lenses *h i* and the disk F, or its equivalent, applied in combination with a lens A, substantially as and for the purpose specified.

Third, the disk F or its equivalent, furnished with one or more correcting lenses *h i*, in combination with the diaphragm G and lens A, constructed and operating substantially as and for the purpose described.

No. 49,161.—JAMES SHANNON, Cohoes, N. Y.—*Cutter for Wood-turning Lathe.*—August 1, 1865; antedated July 30, 1865.—This invention relates to a lathe tool for turning irregular forms, and it consists of a disk, to the periphery of which is attached a set of gouge cutters, and between these gouges and equidistant from them is also attached a set of cutters of a saw-tooth shape and set, the middle tooth being longer than the others. This tool is fitted to a revolving shaft in a lathe in the usual manner, and the stuff to be turned is fed up to the same.

Claim.—The construction of a cutting tool by the combination of a gouge or gouges G with a tooth cutter B, formed as described, and attached to a revolving disk, substantially as set forth in the within specification.

No. 49,162.—THEODORE SHARTS, Albany, N.Y.—*Railway Frog.*—August 1, 1865.—This invention consists in a movable frog, answering the purposes of a switch, thereby avoiding the expense of a switch stand, and its connections with the rail, and a person to operate it.

Claim.—The employment or use of a movable or detachable tongue, applied to a frog, in the manner substantially as and for the purpose herein set forth.

No. 49,163.—J. J. SHERMAN, Albany, N. Y.—*Key-bolt Connections of Car Trucks.*—August 1, 1865.—The object of this invention is to diminish the concussions and shocks to the truck frames, flange of the wheels, and rails, by affording an elastic resistance in a horizontal direction at the key-bolt connection of the carriage with the trucks, so that while there will be less sudden strain upon the key bolt, there will also be less destruction and damage, or breakage to the rails, than hitherto.

Claim.—First, the elastic key-bolt connection for railway carriages, when arranged and applied to operate against lateral or other horizontal impulse, substantially as described.

Second, surrounding the pivot or key-bolt connections with India-rubber or other elastic substance, confined within metallic cups or boxes, in such manner as to admit of a horizontal motion of said key bolt, but not vertical motion, substantially as described.

No. 49,164.—S. M. SHERMAN, Fort Dodge, Iowa.—*Horse Rake.*—August 1, 1865.—The teeth of the rake are formed of wood, bent or curved in S-form; their upper ends, held between two bars, are attached by a rod to a lever, to elevate or lower them.

Claim.—The combination of the S-formed wooden teeth E, bars *e e*, arms *f f*, link F, and lever G, all as specified.

No. 49,165.—JAMES SPEAR, Philadelphia, Penn.—*Coal Stove.*—August 1, 1865.—In this invention, inside a coal stove having a direct draught, and over the mouth of the pipe, is fitted a damper having a hole in the centre.

Claim.—The damper C with a hole in the centre, or its equivalent, placed inside a stove, having direct draught, and arranged and operated in the manner and for the purpose herein set forth.

No. 49,166.—NATHAN STARBUCK, Wilmington, Ohio.—*Ditching Machine.*—August 1, 1865.—This invention consists in the use of a wheel provided with cutting edges, or flanges, a plough for raising the earth between the cuts made by the wheel, and a scraper with inclined planes, to discharge the earth raised from the machine.

Claim.—The wheel E, provided with flanges *c* projecting beyond the rim *a*, in combination with the plough F and scraper I, substantially as and for the purpose specified.

Also, the inclined planes L L attached to the scraper bar H, when used in combination with the wheel E, plough F, and scraper I, for the purpose set forth.

Also, placing the wheel, plough, and scraper within a frame C placed or arranged within a frame A, substantially as and for the purpose specified.

No. 49,167.—THOMAS D. STETSON, New York, N. Y.—*Window Glass.*—August 1, 1865.—This invention consists in cementing or otherwise tightly joining by the edges two or more thicknesses of window glass, face to face, so as to enclose between the plates a space filled only with air or other gas to retard the escape of heat from apartments. In cold weather the outer sheet assumes a low, and the inner sheet a higher temperature. To allow for differences of expansion the edges are joined with rubber or the like elastic material, and a slight dishing form given to the sheets, so that each sheet may increase its curvature as it warms, and decrease the same as it cools, without greatly straining itself, or the other sheets.

Claim.—As a new article of manufacture, double or duplex glass, tightly joined at or near the edges, and adapted to serve in the manner herein set forth.

No. 49,168.—T. T. STRODE, Mortonville, Penn.—*Adding Machine.*—August 1, 1865.—This invention consists in the employment of a revolving disk, marked on its rim with a series of figures, and provided with holes to receive a pin, by which the said disk can be rotated; with a cam groove in its face to operate in combination with a stationary abutment; with a hinged index and stationary dial, marked with figures from 1 to 100 near its circumference, and with other figures from 1 to 16 on the sides of a segmental slot, in which the index plays in such a manner that, by inserting a pin in one of the cavities opposite to any desirable figure on the circumference of the dial, the revolving disk can be turned on its axis for a distance equivalent to the figure which was opposite the respective cavity, and at the same time the index moves in the groove and the figure is registered. By repeating the operation with the same or another figure said figures are added up, and the same are registered on the dial and disk.

Claim.—The revolving disk A, marked with figures on its circumference, and provided with a cam groove *c* and with cavities *p*, in combination with the slotted dial C and index D, constructed and operating substantially as and for the purpose set forth.

No. 49,169.—T. T. STRODE, Mortonville, Penn.—*Calendar Clock.*—August 1, 1865.—In this invention, upon the face of the clock is an oscillating slide, which is marked with names of the months, and has openings opposite these names. On the under side of the slide is a projection which bears on the face of the month wheel, and fits in one of the eleven grooves upon its face. The grooves open one into another in such a manner that when the wheel has completed its revolution the projection slips into the next groove, thus bringing the name of another month opposite the numbers on the rim of the wheel. The position of the communicating channels corresponds with the number of days in the different months.

Claim.—The slide B, marked with the names of the months and provided with openings *h*, to operate in combination with the wheel A, marked with figures from 1 to 31, and provided with concentric grooves *e*, substantially in the manner and for the purpose herein set forth.

No. 49,170.—JOSEPH R. TAYLOR and HORACE A. TOWNE, Centralia, Ill.—*Closing Hand-hole Plates in Steam Boilers.*—August 1, 1865.—This invention consists in inserting the plug in the boiler plate, in combination with the cap and clamp.

Claim.—The plug B, inserted in the boiler plate, in combination with the cap C and clamp D, substantially in the manner and for the purpose herein shown and described.

No. 49,171.—ELI THAYER, Worcester, Mass.—*Method of Preventing the Breaking of Glass by Exposure to Heat.*—August 1, 1865.—This invention consists in covering the side of the glass exposed to the heat with a coating of hydrate of lime, and applying to the said coating before it is dry a layer of fine sand. The coating of lime and sand may be covered by another coating of hydrate of lime.

Claim.—The non-conducting lining when applied to the surface of glass exposed to fire or to a high heat, substantially as set forth.

No. 49,172.—ELI THAYER, Worcester, Mass.—*Steam Generator.*—August 1, 1865.—This invention consists in providing a series of pipes in the furnace for bearers or supporters of the grate, through which the water from the boiler circulates. Attached to the pipes which convey the water from the boiler to these pipes is a sediment extractor, designed to return the foreign substances held in suspension by the water as it passes through the extractor. At the side opposite where the water is received into the grate supporters or pipes they terminate in a vertical pipe, which passes up through the furnace and then extends horizontally across the same an indefinite number of times, when it terminates in the boiler above the water line.

Claim.—First, the tubular supporters of grates, substantially as set forth.

Second, in combination with their supporters, the extension or continuation of the pipe or pipes into the combustion chamber, substantially as set forth.

Third, the combination of these supporters with the screen grates or bars resting upon them, and also with the sediment extractor.

No. 49,173.—LEVI H. THOMAS, Waterbury, Vt.—*Sled Brake.*—August 1, 1865.—This invention consists in the addition of a self-adjusting bar connected with levers which operate the prongs or dogs.

Claim.—First, the vibrating self-adjusting bar, attached to the sliding frame, the same being connected with the levers and so operating the prongs or dogs that they will adjust themselves to the density of the substance they come in contact with.

Second, placing the pins *f f* in such a position with the movable hooks *e e* as to always insure their taking hold to break the force of the load when pressing forward.

No. 49,174.—LEVI H. THOMAS, Waterbury, Vt.—*Steel Trap.*—August 1, 1865.—In this invention the pan of the trap is formed of two flat levers jointed in the middle, which serve also to lock the jaws together. When set this jointed platform is raised in the middle so as to form a horizontal plane, allowing the jaws to lie open. The spring or springs are directly beneath and within the range of the jaws.

Claim.—First, the jointed pan so constructed and arranged as to embrace both ends of the jaws and hold them closed.

Second, holding the trap set, the pan forming the catches under the angles of the jaws.

Third, placing springs within the circumference of the jaws acting directly upon the pan, whereby they hold the trap either set or sprung.

Fourth, the mode of constructing animal traps, whereby the pan forms the levers for setting.

Fifth, the jointed double pan, in combination with the spring and jaws, the same being constructed and operating in the manner herein described for the purposes specified.

No. 49,175.—ROBERT THOMAS and GILES EDWARDS, Columbiana, Ala.—*Manufacture of Wrought Iron.*—August 1, 1865.—This invention consists in subjecting pulverized iron ore, mixed with carbonaceous material, to the action of heat, in a reverberating furnace. The mixture of pulverized ore and charcoal is spread in a thin layer on the hearth, so that the slag may readily escape through the door. The wrought iron is collected from the surface of the materials by "balling" and is removed, leaving a new surface exposed to the action of the heat.

Claim.—First, extracting wrought iron direct from its ore or from the oxide of iron by subjecting a layer of pulverized ore, which is mixed with carbonaceous matter, to the action of heat, and balling the metal as rapidly as it is set free from the surface of said layer, substantially as described.

Second, conducting the within-described process, substantially as described, upon an inclined or porous surface, substantially as set forth.

No. 49,176.—HOWARD TILDEN, Boston, Mass.—*Egg Beater.*—August 1, 1865.—This device consists of a box provided with a rotating wheel midway between the ends, with floats arranged diagonally to its axis, so that the wheel will be turned by the contents of the box as they pass from one end to the other when the box is shaken.

Claim.—A case or box provided with a rotating wheel midway between the ends, with floats arranged diagonally to its axis, substantially as described, so that the wheel will be turned by the contents of the box as it flows from end to end, when the box is shaken.

No. 49,177.—J. H. S. TUCK, Cambridge, Ohio.—*Drill for Wells.*—Augus 1, 1865.—This invention has for its object the locking of the bit to the stock, and consists of a spring bar which articulates with a groove made in the collar or stock of a drill, so as to prevent the bit from having a rotary movement on the stock.

Claim.—Locking drills for boring oil or other wells to their rods or shafts, substantially as and for the purpose above described.

No. 49,178.—SAMUEL W. VALENTINE, Boston, Mass.—*Cutting and Grasping Shears.*—August 1, 1865.—This invention consists in the combination with a shearing instrument of a yielding hold-fast or spring for grasping or holding the stem of the fruit or flowers cut off by the shear blades.

Claim.—A cutting and grasping shears, having a yielding hold-fast, for the purpose substantially as set forth.

No. 49,179.—DELAVAN D. VAN NORMAN, LESTER B. BROWN, and ENOCH R. MORRISON, Petroleum Centre, Penn.—*Burning Hydrocarbon Oils.*—August 1, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, placing in the furnace or fire box of a steam boiler a retort for generating gas from petroleum or other hydro-carbon liquids, the retort being surrounded by a steam chamber, from which superheated steam may be used with a small portion of carburetted hydrogen gas for fuel.

Second, placing a copper or other metal coil of pipe in the bottom of the retort, through which superheated steam is admitted, to hasten and evolve the gas from hydrocarbon liquids.

Third, one or more pipes leading from near the top of the retort down under the bottom of the same, for the purpose of intensifying the heat in the retort, and thereby dispensing with fire in the pan after the steam in the boiler is at working pressure.

Fourth, the smoke jacket surrounding the retort and steam chamber, in combination with

the fire pan, whereby the smoke of the burning liquid is brought in contact with gas and steam and is entirely consumed.

Fifth, the float valve placed in the retort for controlling the supply of petroleum or other liquids for generating gas, in the manner herein set forth.

Sixth, the manner of separating the water from the crude oil by passing a coil of steam pipe through the tank as described.

Seventh, the perforated coil or circular *q* in the top pipe of the retort, for the purpose of letting a small portion of steam into the top of the gas-generating retort G′, to commingle with the gas as it escapes for ignition.

Eighth, the arrangement of iron or other suitable metallic pipes for superheating steam in the furnace of a steam boiler, as herein described, in combination with the gas generating retort.

Ninth, the construction and arrangement of the steam-pressure governor valve, in combination with the spring balance, as and for the purposes set forth.

No. 49,180.—WM. VINE, Norwalk, Conn.—*Dogs for Lathes.*—August 1, 1865.—This invention consists of a pair of holding jaws or dogs for lathes, the feet of which are held to the face plate of the lathe by a bolt passing through slots in each. When screwed up tight, the jaws are prevented from slipping by corrugations in their joining faces.

Claim.—First, the arrangement of the two adjustable plates A and B, in the manner and for the purpose substantially as herein described.

Second, the arrangement of the corrugated faces, or their equivalent, substantially as set forth.

No. 49,181.—J. H. WALKER, Worcester, Mass.—*Cutting Soles of Boots and Shoes.*—August 1, 1865.—This invention consists in cutting and bevelling the rear end of the tap soles of boots and shoes, at one and the same operation; and also in the use of a double-curved knife with an irregular edge.

Claim.—First, cutting and bevelling the rear end of tap soles at one and the same operation, substantially as set forth.

Second, the use and employment of the double-curved knife with an irregular edge *b c*, substantially as and for the purposes set forth.

No. 49,182.—WARNER WELLAND, Dedham, Mass.—*Picker Staff Connections in Looms.*—August 1, 1865.—This invention relates to an arrangement of parts, which will be understood by reference to the claim and engraving.

Claim.—The arrangement, substantially as described, of the picker staff and the socket, the bearings, and the pin of its carrier.

No. 49,183.—THOMAS WELCH, Churchville, N. Y.—*Harvester.*—August 1, 1865.—By enclosing the crank pin in such a manner in the box that no leakage takes place, the entering of dust or dirt is entirely prevented, and the crank pin being provided with a constant fountain of oil, cannot get heated and cut out.

Claim.—First, the combination and arrangement of the box D, constructed as shown and described, with the crank pin C, socket *d*, wheel B, or its equivalent, and driving shaft A of reapers and mowers, for the purposes specified.

Second, the joints I and J, constructed and arranged as shown and described, in combination with the crank box D and cutter bar F, for the purpose set forth.

No. 49,184.—THOMAS WELCH, Churchville, N. Y.—*Reaping and Mowing Machine.*—August 1, 1865.—This invention consists in the arrangement of the ratchet, ground wheels, &c., in combination with adjustable spring pawls attached to the main axle.

Claim.—First, the arrangement of the ratchet R, fixed to the ground wheels B, in combination with the adjustable spring pawls P rigidly attached to the main axle A, substantially as and for the purposes described.

Second, the primary pawl bar C rigidly attached to the main axle A′, in combination with the adjustable or sliding auxiliary bar C′, the independent spring pawls *p*, and steady pin *g*, constructed, arranged, and operating in the manner and for the purposes shown and described.

Third, the employment or use of the circular stock J and its slide S, the latter having a ratchet edge, and both being arranged and operating in the manner shown and for the purposes specified.

Fourth, the roller T, in combination with the circular S, as shown, and for the purposes set forth.

Fifth, in combination with the stock J and brace L, the brace bar M, arranged in the manner and for the purposes set forth.

Sixth, the lever *t* and ratchet wheel *w*, constructed and arranged as shown, in combination with the circular ratchet slide S and locking latch *r*.

No. 49,185.—THOMAS WELCH, Churchville, N. Y.—*Crank Pin Boxes.*—August 1, 1865.—This invention consists in the peculiar construction of the enclosing cap of the crank boxes

of harvesters, which affords an oil fountain or reservoir under the end of the crank pin; and also in compensating for the wear of the inner boxes by a set screw. The half of the box opposite the set screw having a convex face, and resting against a similar face in the stock or head of the connecting rod, the boxes are permitted to adjust themselves to the position of the crank pin without cramping.

Claim.—First, the combination and arrangement in harvesters of the set screw S and boxes B and D with the head A, the bearing face between the latter and box D being made convex, substantially in the manner and for the purposes set forth.

Second, in combination with the crank head or box A of harvesters, the chambered cap C, constructed, arranged, and operating substantially in the manner and for the purposes shown and described.

No. 49,186.—M. A. WHEATON, Suisun City, Cal.—*Harvesting Machine.*—August 1, 1865.—The cutters are driven by means of a series of cams on the side of the drive wheel acting on a vibrating lever, which extends across the diameter of the wheel, and is fulcrumed in its axle; said lever is furnished at either end with a friction roller, which works over the faces of the cams, imparting a vibrating motion to the lever, and the ends of the lever are connected by links to standards rising from the frame, said links serving to steady the lever and maintain the rollers in proper relation to the cam ring. The lever slides laterally on the axle in being thrown in and out of gear, being moved and held in gear by a cam collar turning on the axle, and being thrown out when not thus held by the cams on the drive wheel.

Claim.—First, in combination with the cam teeth B, the employment or use of the friction rolllers D D′ and the jointed vibrating rods E E′, or their equivalents, for the purpose specified and set forth.

Second, the employment or use of the collars H H, or their equivalent, with the depression and projection, substantially as and for the purpose specified.

No. 49,187.—J. D. WHELPLEY and J. J. STORER, Boston, Mass.—*Stamping and Crushing Mill.*—August 1, 1865.—This invention consists of a grinding, crushing, or pulverizing mill, in combination with radial arms, constructed of chilled cast iron, incorporated in casting with wrought iron, or other suitable metal.

Claim.—In combination with the radial arms or disks of a grinding, crushing, or pulverizing mill, the employment of a plate, paddle, or beater A constructed of chilled cast-iron, incorporated in casting with wrought iron, or other suitable malleable metal, substantially as set forth and for the purposes described.

No. 49,188.—JOSEPH S. WOOD, Philadelphia, Penn.—*Gas Regulator.*—August 1, 1865.—This invention consists of a cylindrical chamber provided with a burner, and attached to the gas main. The said chamber is divided into two compartments by a metallic disk, to which is attached a diaphragm, which is provided with a valve passing through an aperture in the disk. The disk has a small aperture at one side; a spring provided with a conical valve is attached to the disk, and closes an aperture in the valve. The distance from the valve to the aperture is regulated by means of a screw, and a rest is provided for the valve where the gas is shut off.

Claim.—First, passing the gas through the valve H by means of the openings *h h′*, substantially as described.

Second, the valve H, in combination with the stop K, substantially as described.

Third, the combination of valve H, stop K, and set screw *m*, substantially as described.

No. 49,189.—WILLIAM WORKMAN and C. F. SWAIN, Ripon, Wis.—*Bed Bottom.*—August 1, 1865.—This invention consists in holding the slats composing the bed bottom in an extended condition when in use, so that the bottom will properly sustain the whole area of the mattress.

Claim.—Connecting the straps C, having the slats B attached thereto, or the slats themselves, to the rods or projections *c*, in such a manner as to keep said slats extended, and employed in combination therewith the springs *a a* and cross-pieces A A, substantially as and for the purpose herein set forth.

No. 49,190.—GEORGE T. WRIGHT, Cincinnati, Ohio.—*Straw Cutter.*—August 1, 1865.—This invention consists in operating the feed rollers, and consists in a disk having pin holes at various distances from the centre, together with a slotted arm, pawl, and ratchet.

Claim.—The arrangement of the ratchet wheel O, pawl P, in combination with the slotted arm R, and perforated disk S, for graduating the rotation of the feed rollers K, in the manner described.

No. 49,191.—CHARLES H. BASSET, assignor to the BIRMINGHAM BUTTON COMPANY, Birmingham, Conn.—*Machine for Cutting Rings from Ivory.*—August 1, 1865.—The object of this invention is to cut from the material of which buttons are made, and outside the circle of the button, and that part usually wasted, a ring, and it consists in so forming revolving cutters as that they shall extend outside of the button, and from the material that would otherwise be wasted cut a ring or rings, and thus save the material.

Claim.—Forming rings from any material out of which buttons or other circular articles are cut, by cutting them from that portion of the material which is exterior to the button, and at the same operation with the cutting of the button, by the means substantially as described.

No. 49,192.—GEORGE BRICKER, sr., Newville, Penn., assignor to himself and GEORGE B. HAMMER, Harrisburg, Penn.—*Process of Varnishing and Polishing Wood.*—August 1. 1865.—This invention consists in applying to the surface of wood a solution of potash, after which the wood is smoothed with pumice-stone. A varnish, composed of gum sandarach and alcohol, is then applied to the surface and allowed to dry, after which it is coated with linseed oil and alcohol and polished.

Claim.—The process herein described of varnishing and polishing wood, substantially as set forth.

No. 49,193.—L. C. FIELD, assignor to himself, J. P. FROST, and W. S. BELLOWS, Galesburg, Ill.—*Beater Press.*—August 1, 1865.—This invention consists of a series of devices designated in the claim and shown in the engraving.

Claim.—The two levers F F employed in combination with the rope H, beater D, and notches *g* and *r*, in the manner and for the purpose set forth.

Also, the standards *n n* on the beater D when used in combination with the levers F F and rope H, for the purpose specified.

Also, the windlass E, composed of two drums *d h*, when used in combination with the eccentric *j*, to operate either the lever or beaters, at the will of the attendant, as described.

Also, the ways or track I at the bottom of the press box, and arranged substantially as shown, for the discharge of the bale from the press box.

No. 49,194.—HENRY FISHER, assignor to C. AULTMAN & CO., Canton, Ohio.—*Reaping Machine.*—August 1, 1865.—The grain platform is pivoted at its inner front corner to the frame, so as to be allowed to swing around to a position nearly at right angles to that in which it receives the grain, and it is there dumped to discharge its load. The invention consists, first, in the means employed for automatically operating said platform; second, in providing said platform with a hinged front section, which folds up as the platform moves off to discharge its load, preventing the grain from sliding off and keeping it in good shape until the platform is dumped; and, third, in combining with said platform an automatic, swinging cut-off, or platform, which receives the accumulating grain, while that upon the grain platform is being discharged.

Claim.—Swinging and dumping table G operated automatically, such as herein described and represented.

Also, in combination with a swinging and dumping table, the hinged section *d* at its front edge, as and for the purpose substantially as herein described.

Also, in combination with a swinging and dumping or dropping table, a shield or holder, operating in connection therewith, as and for the purpose described.

No. 49,195.—A. F. FRENCH, assignor to himself and ED. CHARLES TERRILL, Franklin, Vt.—*Starting Cars.*—August 1, 1865.—This invention consists in the connection of the draught pole, lever, and pawl, combined with a ratchet wheel on the axle, so that the horse or horses, by a forward movement, can apply additional force to start the cars.

Claim.—The lever F, pawl *c*, in combination with the ratchet wheel *d*, draught pole D, and with the axle or wheel of a street car or other vehicle, constructed and operating substantially as and for the purpose set forth.

No. 49,196.—NATHAN RICHARDSON, assignor to himself and ELI F. STACY, Gloucester, Mass.—*Steering Apparatus.*—August 1, 1865.—In this invention the steering apparatus has a worm gear in the rudder head, and is operated by endless screws. The screws are placed outside the periphery of the gear, and in so converging the screws and gear relatively that by forcing the screws towards the centre of the rudder head a lateral motion of the latter will be prevented.

Claim.—In a steering apparatus made with a worm gear on the rudder head, and operated by means of worms or endless screws meshing therein, the arrangement of said screws outside of the periphery of said gear and substantially in the plane, as and for the purpose specified.

Also, arranging the endless screws with refrence to the gear on the rudder head, so that by forcing the screws toward the centre of the rudder head it will be prevented from lateral motions.

No. 49,197.—A. L. SHEARS, Flint, Mich., assignor to himself and H. T. WOODMAN, Dubuque, Iowa.—*Life Boat.*—August 1, 1865.—This invention consists in the combination of air chambers, divisions for storage of provisions, &c.; scuppers and thwarts, susceptible of being raised or lowered, for communication with the air chambers of the boat.

Claim.—The general arrangement of the boat herein described, of the air chambers or

spaces for storage of provisions, &c.; water scuppers and thwarts, susceptible of being raised or lowered at pleasure, for communication with the air chambers of the boat, arranged together and operating substantially in the manner and for the purpose specified.

No. 49,198.—WILLIAM SLAPE, Salem, N. J., assignor to himself and H. S. MARSH, Philadelphia, Penn.—*Salve.*—August 1, 1865.—This invention consists of a composition of linseed oil, red lead, olive oil, and the blossoms of the St. John's wort.

Claim.—A salve composed of the within-named ingredients, composed substantially as set forth.

No. 49,199.—WILLIAM MONT STORM, assignor to himself and R. CHARLTON MITCHELL, New York, N. Y.—*Steam Boiler.*—August 1, 1865.—This invention consists in the arrangement of the fire boxes, which are situated in the central part of a cylindrical boiler, and separated by a water partition, all running transversely to the axis of the boiler and tubes, and the smoke chambers situated within the water space of the boiler, with the pipes for circulating the smoke to the up-tube. Flues are provided for conveying air to the furnace, which run parallel with the generating tubes, and a water head is formed in each end of the boiler for affording access to the outer ends of the tubes, which is filled with water, and is connected with the boiler by circulating pipes, so that it is made to act as a generator of steam as a water heater.

Claim.—First, the relative arrangement of the parts of my steam boiler, substantially as follows, viz: In a cylindrical horizontal shell, the arrangement of two independent furnaces, located at its middle, with grate bars running transversely to its length, said furnaces being separated by a water space or "leg," and their products of combustion respectively passing right and left through the flues (preferably, small tubes) to chambers *i i*, and thence through some proper conduit to their final exit, all substantially as described.

Second, in conjunction with the other general arrangement of the parts of this boiler, the application of a series of auxiliary draught-heating tubes running the entire length of the horizontal shell, from its end to its furnaces respectively, in the manner and for the reason given.

Third, the hollow head or "tompion," with its conduits for circulation, substantially in the manner and for the purpose described.

Fourth, the application of the sleeve *m m* through the steam drum and chimney, for the objects described.

No. 49,200.—GEORGE W. TILESTON, assignor to ASA WILMOT, New Haven, Conn.—*Flour Sifter.*—August 1, 1865.—This invention consists of a curvilinear vibrating sieve, in which is a roller for breaking the lumps of flour, all arranged in a suitable frame.

Claim.—As a new article of manufacture, a flour or meal sifter, consisting of a curvilinear vibrating sieve, and a crushing or pulverizing roller, when the whole is constructed and fitted to produce the result substantially as herein described.

No. 49,201.—JAMES C. WENDREM, Albany, N. Y., assignor to WHEELER, MELLICK & CO., Albany, N. Y., and EDWARD WACKERHAGEN, Greenville, N. Y.—*Composition for Paint.*—August 1, 1865.—This invention consists of a composition made by dissolving four pounds of glue in eighteen gallons of water, to which are added four pounds of potash, one pound of sugar of lead; and a quarter of a pound of ammonia may also be added; and the mixture, after standing for twenty-four hours, is ready for use, and may be mixed with any of the metallic oxides.

Claim.—The composition specified, for mixing with pigments to form a paint.

No. 49,202.—GEORGE W. WILLIAMSON, Gouldsborough, Penn., assignor to himself and D. W. LEE, Wilkesbarre, Penn.—*Barrel for Holding Petroleum.*—August 1, 1865.—This invention consists of a barrel made with double walls, and having a space which is filled with a composition of water, glue, and chalk.

Claim.—First, filling the space between double barrels designed to contain petroleum or other volatile fluids with a solution composed of water, chalk, or its equivalent, substantially as described.

Second, with a solution composed of water and chalk, or other mineral equivalent.

Third, with a solution composed of water and glue, or other glutinous equivalent.

No. 49,203.—SAMUEL WING, Monson, Mass., assignor to himself and GEORGE R. TOPLIFF, Brooklyn, N. Y.—*Machine for Refitting Stop Valves.*—August 1, 1865.—The valve, being taken from its seat, is placed between the yielding and the adjustable centres, and is thus at once in a proper condition to be acted upon by the concave mill, a few revolutions of which, imparted by any ordinary ratchet brace, bring the valve into the requisite shape to fit into its seat.

Claim.—First, the concave mill B provided with an internal yielding centre *c*, and arranged in suitable bearings *a*, in combination with the adjustable centre C, constructed and operating substantially as and for the purpose set forth.

Second, the guide E and conical mill D applied in combination with each other, substantially as and for the purpose described.

No. 49,204.—E. WRIGHT, assignor to himself and A. C. DIBOLL, Wilmington, Ohio.—*Cultivator and Planter*—August 1, 1865.—This invention consists of two under-frames, composed of long central beams and short side pieces, hinged and made adjustable from the central beam. A central governing wheel, by its connections, moves these under-frames laterally. A lever-armed rock shaft connected to this governing wheel operates the seed slides, and a projecting ledge on the spiral seed-distributor sustains the greater part of the mass of seed.

Claim.—First, the construction and arrrangement of the under-cultivator frames, composed respectively of long central beams D D, fixed, but adjustable in position, and of short side pieces or beams E E, hinged and movable or adjustable to and from the said central beams, substantially as and for the purposes herein specified.

Second, the governing wheel *o*, arranged and operating substantially as and for the purpose herein specified.

Third, the combination of the governing wheel *o* and the side pieces or beams E E of the under-frames, through the means of the levers Q Q, connecting bars *p p*, rods or bars P P, all substantially as herein described.

Fourth, operating the seed-dropping wheels U U by the governing wheel O, under the control of the driver, by means of the lever-armed rock shaft S and flexible connecting rods *s s* and *t t*, or their equivalents, substantially as herein specified.

Fifth, the projecting ledge *v* in the spiral seed separator, substantially as and for the purpose herein set forth.

Sixth, the friction plate *r* between the brush *w'* and its fastening wedge, for the purpose specified.

Seventh, the construction of the drill teeth or shovels, with sockets or mortises fitting over their standards, for the purpose specified.

No. 49,205.—CHRISTOPHE OURS BULLOT, assignor to BULLOT & COMPANY, Santa Rosa de los Andes, Chili.—*Machine for Hulling Grain.*—August 1, 1865.—This invention consists in arranging two pairs of disks of wood to run together like millstones. The face of one of the first pair is covered with wire gauze, and those of all the others with leather. The grain, in a moist condition, is passed successively between these disks and hulled.

Claim.—The decorticating apparatus herein described, the same consisting of the grinding disks D L, feeding screw E, fans M P, and air pipes or conductors N O, arranged to operate in the manner described.

No. 49,206.—RICHARD NEEDHAM, Dukinfield, England.—*Steam Boilers.*—August 1, 1865.—A pipe, placed longitudinally in the boiler, is provided with a number of vertical pipes, with funnel-shaped openings at the level of the water, and directed toward the front or firing end of the boiler. The scum flowing backward, of necessity enters the funnel-shaped openings, and through them into the main pipe, and is drawn off by a cock on the outside of the boiler.

Claim.—The funnels *g h*, for collecting the scum from the water of steam boilers.

No. 49,207.—BERNARD STEINMETZ, Paris, France.—*Lock for Satchel.*—August 1, 1865.—This lock, secured by screws upon the upper edge of one of the jaws, contains a horizontal bar, pivoted at one end, and carrying at the other a pendent stub or bolt, designed to pass through the staple attached to the other jaw. To hold the bar down, and thus lock the two jaws together, there is a forked tumbler, which is so moved by the key that one of its limbs will pass over and against the end of the bar; but after said tumbler shall have been thrown back by the key, the bar may be raised up so as to withdraw the bolt from the staple by means of a projecting knob connected with the bar by a pin which projects from said bar through a curved slot in the case.

Claim.—The arrangement of a spring lever D, in combination with a tumbling bolt V, acted upon by a spring *s*, and operated by means of a key, when combined with the jaw frames of a carpet bag, satchel, &c., and operating in the manner and for the purpose substantially as described and set forth.

No. 49,208.—JAMES WHITE, Cleveland, Ohio.—*Wrench.*—August 1, 1865.—In this wrench the two jaws, one fixed and the other movable by a screw, are arranged upon a short bar, which, in turn, is fastened upon the straight portion of the edge of a semicircular disk. The handle, slotted at the end so as to embrace the disk, is held and fastened to the same by a pin or journal which passes through its centre and through the two sections of the handle, and a spring pawl lying concealed within the handle, and parallel with the axis thereof, is forced, by means of a spring, outward in the direction of the central pin or journal until its end enters any one of a series of notches in the curved portion of the edge of the disk.

Claim.—The stop L, operating as described, in combination with the disk F and adjustable jaws of the wrench, whereby they can be used at any desirable angle, and in either way, without removing the wrench from the nut, as specified.

No. 49,209.—J. W. ALLEN, Marion, Mass.—*Manufacture of Paper.*—August 8, 1865.—This invention consists in the use of the trees of the genus Pinus, which has a long tough fibre, permeated with gelatine and other substances, which make a natural size for the paper.

Claim.—The described new article of manufacture.

No. 49,210.—H. P. ANDREWS, Cleveland, Ohio.—*Pencil Sharpener.*—August 8, 1865.—In this invention two concave jaws are hinged together, and confined by a grooved sheath, which enables a person to open and clean and sharpen the cutting edges when required.

Claim.—First, a pencil sharpener, made with two hinged jaws B B′ and a sheath C, substantially as and for the purpose set forth.

Second, the groove *b* and tongues *a a′*, in combination with the sheath and jaws, applied and operating substantially as and for the purpose described.

No. 49,211.—JOHN AXTMAN, East Cambridge, Mass.—*Inkstand.*—August 8, 1865.—This inkstand is provided with an inferior perforated cap, a flange projecting upward around the central perforation. Resting upon said flange is a plate, provided also with a hole corresponding to that in the cap. Over said cap and plate is a superior elastic cap, perforated in a manner to correspond with the orifices in the inferior cap and the plate. The superior cap is arranged so as to open or close the orifices in the inferior cap and the plate as may be desired. The two caps are made concavo-convex with respect to each other.

Claim.—The combination of the stationary or inferior perforated cap *b*, or its equivalent, the perforated gate *d*, and the rotary or superior perforated cap *a*, arranged and applied together, substantially in manner and so as to operate as specified.

Also, the construction of the rotary cap, concavo-convex, in manner and to act as a spring, as described, with respect to the gate.

Also, the construction of the two caps *a b*, when having the gate arranged between them, with the concavo-convex head *n*, arranged in the manner and for the purposes specified.

No. 49,212.—A. BALDING, Flora, Ill.—*Submerged Force Pump.*—August 8, 1865.—In this invention the piston contains ball valves, with seats above and below for reciprocal action, the flow being thus continuous through a hollow piston rod. There are caged ball valves at the bottom and top of the cylinder.

Claim.—The combination of the upper and lower chambers, provided respectively with the ball valve and openings, and the hollow piston rod and chambered piston, the latter also provided with ball valves and openings, the whole arranged and constructed as described and represented.

No. 49,213.—GEORGE F. BARDEN, South Adams, Mass.—*Book Cover.*—August 8, 1865.—The object of this invention is the production of an outside casting or covering for the covers and backs of books, so made and folded as to be easily inserted or placed thereon when desired, which coverings are made of different sizes, to conform to the varying dimensions of books.

Claim.—A book cover, made substantially as herein described.

No. 49,214.—JAMES K. BARKER, Lawrence, Mass.—*File-cutting Machine.*—August 8, 1865.—In this invention a series of cutting tools is worked in a manner similar to trip hammers; the blanks rest upon the curved surface of a section of a cylinder, and are held in the usual manner, and have a roller pressed down by springs passing over them just in front of the cutting tools. The trip hammers have springs attached to them to give additional force, and they are so arranged as to gradually increase the force of the blow as the under part of the file passes under the cutting tools.

Claim.—First. the springs R and the rods U, to bear upon the springs R, for the purpose herein set forth.

Second, the frame, Fig. 7, which is attached to the bed A of the machine, and independent of the carriage B, in combination with the chisel holders O, rollers Q, the springs R, and the means of operating the springs and chisel holder.

Third, the springs H and the cam wheels, arranged as described, to regulate the force of the springs H, for the purpose herein set forth.

Fourth, the described improved machine for cutting a series of files at the same time, in the same machine, by a corresponding series of hammers and chisels, consisting essentially of the combination of the elements above claimed, and operating substantially as herein set forth and described.

No. 49,215.—JULIUS BAUR, Brooklyn, N. Y.—*Process for Rendering Barrels Impervious to Petroleum, &c.*—August 8, 1865; antedated July 24, 1865.—This invention consists in treating the barrels with a solution of alum in water at 90° Fahrenheit, until the wood is thoroughly impregnated. After this process, and when the wood is dry, the barrel is treated with a cold solution of soluble glass. The above process is repeated as often as necessary, and the barrel is finally coated with a concentrated solution of soluble glass.

Claim.—The within-described process of producing an oil-tight lining for barrels, &c., by first treating the wood with alum, or its equivalent, and afterward with soluble glass, substantially as and for the purpose set forth.

No. 49,216.—ABNER L. BAUSMAN, Minneapolis, Minn.—*Snow Plough.*—August 8, 1865.—This invention consists in constructing the mouldboards or wings of the plough with double walls, so as to form a steam or hot-air chamber, by which the mouldboards may, when the plough is in use, be kept in a heated state, and the snow prevented from adhering thereto; also, in the use of rotary shovels and brushes placed at the rear of the plough and over the rails, and operating so as to effectually clear the rails from snow after the plough has removed the superincumbent mass therefrom.

Claim.—First, a snow plough for railroads constructed with double walls to admit of a steam or hot air-chamber between its exterior surfaces, for the purpose of keeping said surfaces in a heated state to prevent the snow adhering thereto, substantially as set forth.

Second, the employment or use of rotary shovels and brushes placed at the rear of the plough and over the two lines of rails, and arranged to operate in the manner substantially as and for the purpose set forth.

Third, the combination of the double-walled plough and rotary shovels and brushes, all arranged to operate substantially as and for the purpose specified.

No. 49,217.—JACOB H. BEST, Schenectady, N. Y.—*Water Elevator.*—August 8, 1865.—In this invention the winch of a windlass has a detachable brake piece projecting towards the side of a wheel which moves with the shaft and drum. On the periphery of this wheel are ratchet teeth; when the winch is turned to wind up the bucket rope a pawl hinged upon it falls into these teeth, and the wheel is thus revolved. When the winch is moved in the opposite direction a spur extending laterally from the extremity of this pawl lifts another pawl, which, until then, prevents the reverse movement of the cylinder and drum. Lateral pressure towards the ratchet wheel will, at this stage, arrest or retard the rotation of the drum.

Claim.—The application to the usual barrel and axle used for hoisting and lowering the bucket of a well or any weight of a wheel E, operating as a ratchet and friction or brake wheel, in combination with the winch W, its brake piece *b*, and its pawl R, also the pawl P, the whole arranged substantially as described and for the purposes set forth in the within specification.

No. 49,218.—ALBERT BETTELEY, Boston, Mass.—*Preparing Peat for Fuel.*—August 8, 1865.—This invention consists in placing the peat, as it comes from the bog, in large tanks. If necessary, it may be first ground in a peat mill. The water contained in the peat can be pumped off from the top when the peat settles to the bottom, and the peat may be withdrawn and dried.

Claim.—The employment of a tank in the preparation of peat for fuel, substantially as described.

No. 49,219.—LYMAN R. BLAKE, Boston, Mass.—*Nailed Boot or Shoe.*—August 8, 1865.—This invention consists in a boot or shoe in which the vamp is united together by a series of nails which are uniformly and successively driven in opposite incline directions in the line of the nails.

Claim.—A shoe in which the vamp and sole are united by nails having an inclination with respect to each other, substantially as set forth.

No. 49,220.—LOUIS BOCK and ALBERT F. WHEELER, Sheboygan, Wis.—*Artificial Cork.*—August 8, 1865.—This invention consists of a composition of wood fibre in the form of dust, and a solution of gutta percha or India-rubber moulded in a proper form, or made into thin sheets, or in the form of bottle stoppers.

Claim.—A compound of caoutchouc or India-rubber and waddy dust or fibre in the proportions hereinbefore set forth, or in any other proportions producing the same results, substantially in the manner and for the purposes herein set forth.

No. 49,221.—REINHOLD BOCKLEN and WILLIAM STAEHLEN, Brooklyn, N. Y.—*Hygrometer.*—August 8, 1865.—This invention consists in the use of a spiral coil of prepared wood or rattan, having an index attached, the fluctuations in the moisture of the atmosphere causing the spiral to tighten or relax.

Claim.—First, the employment of the spring A, made of rattan or any other kind of wood, and artificially coiled and prepared, operating in the manner and for the purpose herein shown and described.

Second, the combination of the spring A, made of rattan, with the hand B, or its equivalent, for indicating moistness in the air surrounding it.

Third, the peculiar treatment and construction of the spring A in hardening, preparing, and preserving the same, for the purpose and in the manner herein shown and described.

No. 49,222.—MILES BRADLEY, Westport, Conn.—*Attaching Horn Handles to Knives.*—August 8, 1865.—This invention consists in forming the handles and countersinking and

riveting the heads of the rivets all at one operation of dies after the pile composing the handle has been made up.

Claim.—By means of a die moulding or compressing the horn into the desired form, while on the tang, and countersinking the heads of the rivets and washers at one and the same operation, substantially as set forth.

No. 49,223.—E. W. BROTTELL, Newark, N. J.—*Lock.*—August 8, 1865.—This lock has a hollow cylinder projecting perpendicularly from its face, enclosing a rotating tube in which is arranged a series of thin plate tumblers, which are operated by a flat key inserted in the end of the tube. The tumblers, held in position by springs, have each a rectangular opening in the centre, and a narrow slit cut through and across one side extending into the opening for the reception and passage of a thin vibrating blade which is pivoted at its lower end to the lock case, and is attached at the opposite end to the bolt. To operate the lock the tumblers are pushed in by the key until the slits are brought in range with the blade; then, by turning the key and by it the rotating tube, a spur upon the latter will raise a dog which lies in a notch in the edge of the bolt, and thus leaves the latter free to be moved, while another spur will strike against a projection upon the bolt and move it forward, the blade at the same time passing through the slits and into the central openings of the tumblers. Supposing the bolt to have been projected by this operation the dog will have fallen into another notch, and the tumblers, on the withdrawal of the key, will be forced, by their springs, to assume different positions, thus preventing the blade from being withdrawn so as to raise the dog and retract the bolt until their slits shall have been rearranged by the key.

Claim.—First, the vibrating knife I partaking of the motion of the bolt B, but compelled to turn around a centre *i*, substantially in the manner and for the purpose herein set forth.

Second, enclosing the tumblers M within two separately constructed casings E and G, arranged to operate substantially as and for the purpose herein set forth.

Third, the arrangement of the open tumbler M in the turning part E, and adapted to operate relatively to the swivelling or vibrating knife I* I**, substantially in the manner and for the purposes herein set forth.

No. 49,224.—J. S. BROOKS, Rochester, N. Y.—*Blacking Box.*—August 8, 1865.—This invention consists of a box struck up from a circular piece of tin giving it curved sides, with a holder attached to the bottom, so that the box can be held by placing the foot upon the holder.

Claim.—The combination of the form of the box with the holder B, the same forming a new article of manufacture when constructed as shown, and for the purposes specified.

No. 49,225.—WILLIAM BUDD and J. L. HUSBAND, Philadelphia, Penn.—*Bread and Meat Cutter.*—August 8, 1865.—This invention consists in the application of a rod, frame, and knife, and will be understood by reference to the claim and drawings.

Claim.—The combination and application of the rod C, frame D, and knife A, figure 2, as hereinbefore substantially set forth, and for the purpose described.

No. 49,226.—JAMES BURSON, Yates City, Illinois.—*Feathering Paddle Wheel.*—August 8, 1865.—This invention consists of ways attached to the side of a steamer's wheel-house, which, in connection with guide rods attached to the buckets of the paddle wheel, serve to feather the buckets, or, in other words, cause them to assume a vertical position as they emerge from the water, thus avoiding the lift attendant upon the ordinary fixed buckets.

Claim.—First, a plurality of cam guides for feathering the buckets, as herein specified.

Second, in combination with the aforesaid cam guides the guide rods D D attached to opposite sides of the buckets in the manner described.

No. 49,227.—SAMUEL R. CALTHORP, Roxbury, Mass.—*Construction of Railway Train and Car.*—August 8, 1865.—This invention consists in the construction of cars composing a railway train of such a shape as to present the least surface to the wind, and of a tapering form from the centre towards the forward and rear cars, and hoods to connect the cars.

Claim.—Giving to the exterior surface of a railway train a form tapering from the centre of the train toward either end, or tapering the engine or car at the front or rear of the train, substantially as described, for the purpose of diminishing the atmospheric resistance.

Also, constructing the engine and its truck with a projection in front, in its several parts, of the shape substantially as set forth, and encasing its body both above and below, substantially as set forth, and rounding its cab so that its projection and main casing, while protecting its own surface from the direct resistance of the wind, may, together with its rounded cab, form a single prow to the whole of the train, in the manner and for the purpose herein described.

Also, placing a false bottom, substantially as described, under each carriage of the train for the purpose of protecting the trucks and other projecting surfaces under the carriages from the adverse action of the wind.

Also, enclosing the whole space between any two contiguous carriages of the train flush with the sides, top, and bottom aforesaid, which is extended under the platform, in combination with the projecting roof already in use, and a flexible hood or hoods, substantially as set forth.

No. 49,228.—GEORGE CHALLONER, Omro, Wis.—*Shingle Machine.*—August 8, 1865.—This invention relates to shingle machines in which the shingle is cut by a circular saw in a horizontal position, and the bolts are placed upon a horizontal revolving wheel, and thus carried to the saw, which is placed underneath the wheel, and consists af a tilting bed and devices for operating it, so as to saw alternate buts and points, and the means for releasing the bolt to tilt, and to dog it again when tilted.

Claim.—First, the means employed for operating or tilting the bed I, to wit, the sliding bar L provided with inclined projections *q q*, the lever M attached to L, and the lever N attached to wheel C, all arranged substantially as set forth.

Second, the projection *t* at the inner side of the rim *b* of the wheel C, in connection with the cranks *h j*, springs *f*, and rollers *k*, all arranged substantially as shown for operating the jaws F.

Third, the sliding bar K provided with arms *p p* pivoted to pendants *o o* of the plate *n*, which supports the bed I, for the purpose of raising and lowering said bed, as set forth.

Fourth, the platform O in combination with the tilting bed I, and the devices for releasing the jaw or dog from the bolt, substantially as described.

No. 49,229.—JOHN CHAMPLIN, East Middlebury, Vt.—*Washing Machine.*—August 8, 1865.—This invention consists in the employment of a suitable revolving box or barrel for clothes whilst being washed, of two or more beaters or battle boards, so arranged that they will act upon the clothes as the box is revolved.

Claim.—First, the beaters or battle boards C C arranged in the box of a washing machine so as to operate substantially in the manner specified.

Second, the combination of the trough A, box B, and battle boards C C, substantially as shown and described.

No. 49,230.—ROBERT A. CHEESBROUGH, New York, N. Y.—*Apparatus for Filtering Petroleum.*—August 8, 1865.—This invention consists of a vessel composed of two cylinders united together at the top and bottom, leaving an annular space for hot air. Within the vessel is a cylinder closed at the bottom and provided with pipes. The vessel may be surrounded with a steam coil inside or outside the filter.

Claim.—The application of heat to a filter for hydro-carbon or other oils by means of a triple cylinder or steam worm coiled inside or outside of the filter, as herein set forth.

No. 49,231.—JOHN CHILCOTT, Brooklyn, N. Y.—*Mode of Constructing the Heads, Necks, and Connections of Gas Retorts.*—August 8, 1865; antedated July 24, 1865.—This invention consists in making the walls of cast iron and filling the spaces with plaster of Paris, or other slight conductor of heat.

Claim.—Making the neck and head and the connection for the main of a gas or other retort, or either of them, with double walls, having a space between the inner and outer walls filled with plaster of Paris, or other poor conducting material, substantially as and for the purpose herein specified.

No. 49,232.—THOMAS J. CHUBB, Brooklyn, N. Y.—*Amalgamator.*—August 8, 1865.—This invention consists of a cylinder provided with heads having stuffing boxes through which passes a shaft. To the said shaft are attached disks separated from each other by partitions which form spaces around the disks.

Claim.—First, subjecting the ores of precious metals in a disintegrated state to the action of revolving or oscillating plates which are coated with mercury, when such plates are arranged within chambers that are formed in such manner that the ore is subjected to both sides of the plates and caused to flow over a bath of mercury in a continuous stream, substantially as described.

Second, the arrangement of the fixed partitions D on each side of the movable disks C in such manner as to form a continuous passage through the cylinder A for the flow of the ore, substantially as described.

Third, the use of steam in combination with a series of disks C moving in a bath of mercury for the purpose of bringing the atoms in closer contact with the surfaces of said disks, substantially as described.

Fourth, subjecting the ores of precious metals in a disintegrated state to the action of revolving or oscillating plates which are covered with mercury, when such plates are arranged in such manner that the ore is subjected to both sides thereof, and caused to flow past or over the same and over a mercury bath, the plates dipping into said bath for the purpose of removing the precious metals collected thereon and depositing them in the bath, the plates themselves becoming cleaned and freshly coated with mercury of the bath thereby, substantially as described.

No. 49,233.—GEORGE COFFIN, Boston, Mass.—*Steering Apparatus.*—August 8, 1865.—In this apparatus there are two sets of toggle levers jointed, one attached to each side of the rudder head. The rudder head is moved by the elevation of the centre of the levers, which are actuated by a rope or chain leading from the levers, over the barrel of the steering wheel, a side motion of which will communicate the required motion to the rudder.

Claim.—The arrangement of the two sets of toggle-jointed levers attached to the rudder post, and operated by the steering wheel, substantially as hereinbefore described.

No. 49,234.—JESSE COOMBS, Greenfield, Mass.—*Artificial Limb.*—August 8, 1865.—This invention consists in constructing artificial limbs of bands or strips of wood, woven or interlaced in spiral form, and riveted; also, in the use of an air or water bag for the sole of the foot, and in the use of two or more elastic air or water chambers, placed one above the other in the socket of the limb, and having between them a space, from which, when the limb is in place, the air can be exhausted, and thus enable the stump to be kept in position.

Claim.—Making artificial limbs of strips of metal or other material, woven spirally and riveted, or arranged spirally and riveted, substantially as described.

Also, the spring W′, secured at the ankle joint, with one arm working in the leg and the other in the foot, substantially as described.

Also, an air or water cushion, for the sole or under the sole of the foot, inside of the boot or shoe, to enable the wearer to walk without, or with far less, jar to his system when he steps, than he could do without the cushion.

Also, making two or more cylindric air or water cushions, or cushions of other materials, with a vacuum or suction space between them around the stump of the natural limb, substantially as described, to hold the artificial limb on to the natural limb.

No. 49,235.—A. W. COX, Dublin, Ind.—*Ditching Machine.*—August 8, 1865.—The nature of this invention is defined by the claim and engraving.

Claim.—First, the combination of trough M, shovel T, elevator R S, pulleys L L, constituting the apparatus for digging and carrying back the excavated matters.

Second, the described digging and elevating apparatus, hinged to the rear upper part of the frame, and having its forward or digging end both suspended and vertically adjusted by the racked coulters, gearing to pinions O O, under control of the attendant.

Third, the slotted bearings *n*, in the racked coulters, for the purpose specified.

Fourth, the combination of the devices F G H I, for suddenly changing the course of the shovel, in the manner set forth.

No. 49,236.—SAMUEL CRAWFORD, New York, N. Y.—*Locomotive Boilers.*—August 8, 1865.—This invention relates to the construction of the bottoms of the water legs surrounding the fire boxes of steam boilers, and it consists in closing the space at the bottom between the sheets composing the water leg, or hollow wall of the furnace, by a continuous frame that will be water and steam tight, to all practicable purposes, at its junction with the boiler proper, while at the same time it may be readily removed and replaced when necessary for a thorough removal of scale, or for examination or repair.

Claim.—The plan of making the bottoms of the water legs, or hollow walls of the furnaces of steam boilers, of the character described, a removable but steam-tight frame, by the employment of the devices substantially as described, and for the reasons and purposes explained.

No. 49,237.—SILAS CRISPIN, New York, N. Y.—*Priming Metallic Cartridges.*—August 8, 1865.—In this invention the cartridge has a projecting flange or head around its body, nearly midway between the front and rear ends, and the fulminate is placed within the interior recess of this projection.

Claim.—The cartridge, constructed as described—that is to say, with the fulminate placed within a projecting annular recess or rim, which is formed at a point between the ends of the cartridge case, substantially as described.

No. 49,238.—SCHUYLER CUMMINGS, Middlefield, N. Y.—*Process of Preserving the Roots of Hop Vines by Charring the Stems.*—August 8, 1865.—This invention consists in charring the stalks of hop vines after cutting, in order to stop the bleeding.

Claim.—The process and mode of treating hop vines, substantially as above described, for the purpose of preventing them from bleeding after being cut in harvesting the crop.

No. 49,239.—WILLIAM H. DALBEY, Clarksburg, Ind.—*Ditching Machine.*—August 8, 1865.—This invention consists in the employment of cutters, and an elevator, arranged with a beam mounted on wheels. A toothed drum, armed with teeth, is connected to the roller of the elevator by gearing, so as to drive the elevator.

Claim.—The team A, having the mounted yoke B applied to it as shown, in connection with the cutters G H H, box K, and inclined elevator L, all arranged to operate in the manner substantially as and for the purpose herein set forth.

Also, the toothed drum M, armed with teeth *e*, and connected to the roller *c′* of the elevator L, by gearing *f*, for the purpose of driving the elevator, as set forth.

No. 49,240.—JOHN DAY, Brooklyn, N. Y.—*Apparatus for Dressing Silk Threads.*—August 8, 1865.—This invention consists in the arrangement of a reservoir attached to a suitable framing by means of a pin and rods, together with a box, and placed side by side. Between the box and reservoir is a tube, connecting with a heater, said tube having holes therein, whereby the silk, after passing through the liquid in the reservoir between the rollers, is polished by the heat.

Claim.—The combination of a gumming apparatus, with a drying and finishing box, constructed and arranged substantially as and for the purposes herein set forth.

Also, in combination with the above, the hot-air blast for drying the threads, as specified.

No. 49,241.—T. B. DEXTER, Lynn, Mass.—*Steam Boiler Furnace.*—August 8, 1865.—This invention consists of a steam pipe extending from the boiler to the chimney. Centrally located in this pipe is a steam wheel, which is fixed upon a vertical shaft, upon the lower end of which is a fan blower, which by its rotation drives air into the ash-pit, and by opening and closing certain valves the gaseous products of combustion are taken from behind the bridge wall and forced into the ash-pit, for the purpose of making a hot blast through the fuel.

Claim.—The arrangement of the devices for driving the blower *g*, consisting of the steam pipe *c*, wheel *e*, and shaft *f*, operating substantially as set forth.

Also, the combination of devices by which the blast can be changed from a hot to a cold, substantially as set forth.

No. 49,242.—DUNDAS DICK, New York, N. Y.—*Manufacture of Capsules.*—August 8, 1865.—This invention consists of a mould formed in two parts, each part being hinged to a base. A cone is attached to the base so as to leave a space for the gelatine when the mould is closed.

Claim.—In combination with the central cone or plug *a*, the detachable encasing or surrounding side mould pieces, arranged together, substantially as and for the purpose described.

No. 49,243.—S. R. DIMMOCK, Syracuse, N. Y.—*Car Brake.*—August 8, 1865.—This invention consists in an arrangement of gear wheels and springs, attached to a swinging frame, whereby the power required to stop the car is stored up in the springs, to be afterwards used in starting the car.

Claim.—The arrangement of the pinions L and H inside of the oscillating frame E, the stop *n* on the side of the pinion I, the drum *r* enclosing the spring *k*, the two forms of spring latch M and *m'*, with their attachment, as above described, the double crank in its several parts, and with its attachments, as above described, and the plate I, all constructed and operating as and for the purpose herein shown and described.

No. 49,244.—JOHN DONALDSON, Rockford, Ill.—*Lamp Stand and Clothes Dryer combined.*—August 8, 1865.—This invention consists in so combining a set of drying arms for clothes, with a lamp or candle stand, that the arms can be spread at any radial distance apart, and adjusted to different heights.

Claim.—First, the combination of a lamp stand with a drying frame, arranged and operating substantially as described, for the purpose set forth.

Second, the combination of the slotted stem, carrying the drying arms, with the screws on the pedestal or stem, substantially as described, for the purpose set forth.

No. 49,245.—J. P. DORMAN, Galesburg, Ill.—*Steak Mangler.*—August 8, 1865.—This invention consists of a metallic plate, the under side of which is provided with longitudinal parallel serrations of sufficient depth thoroughly to mangle a piece of meat of a thickness suitable for broiling. The upper side is provided with a handle.

Claim.—The construction of the cast iron longitudinal, triangular-shaped tooth plate, and the application of it, substantially in the manner and for the purpose herein set forth.

No. 49,246.—J. OLDEN ELY, Philadelphia, Penn.—*Table Knife.*—August 8, 1865.—In this invention the tongue and handle are of square form, but the former extends only half the length of the latter and is there secured by a dovetailed joint and rivet. At the forward end the handle is cut down so as to form a dovetailed tenon, and each edge of the tongue has a notch corresponding in position to the tenon. Thus formed and arranged, the mould in two sections and of a form proper to secure a bolster, is made to embrace the parts, and the alloy to form said bolster is then poured into the mould.

Claim.—First, the metal bolster H, cast to and arranged to embrace the handle and blade of a knife, substantially as and for the purpose herein set forth.

Second, the projection *i* of a dovetailed or equivalent form on the end of the handle, when arranged for the retention of the bolster X, as set forth.

Third, the bolster X, the dovetailed projection, and shoulders *y y* of the handle, and the notches *e* of the blade, the whole being arranged as and for the purpose herein set forth.

No. 49,247.—A. H. EMERY, New York, N. Y.—*Manufacture of Pyroligneous Acid.*—August 8, 1865.—This invention consists in treating wood in a retort with large quantities of steam until nearly all of the turpentine and rosin are removed. The heat is then raised so as to rapidly char the wood, when the acid is speedily formed, and the steam during the charring is nearly or quite shut off.

Claim.—The use of steam or superheated steam in the distillation of wood in the manu-

facture of pyroligneous acid, &c., in those cases in which the amount of steam used is greatly decreased or discontinued during the whole of or a large portion of the time in which the wood is being charred.

No. 49,248.—A. H. EMERY, New York, N. Y.—*Manufacture of Pitch.*—August 8, 1865.—This invention consists in heating the retort in which the wood is placed on the bottom, or on the sides near the bottom, to such a degree that the pitch will be formed of the requisite degree of hardness by the time the wood is thoroughly charred.

Claim.—The art of making pitch from pine wood by one distillation.

No. 49,249.—A. H. EMERY, New York, N. Y.—*Manufacture of Turpentine, &c.*—August 8, 1865.—This invention consists in heating the wood in a close retort, the heat being sufficient to drive out the turpentine and rosin without causing destructive distillation. The retort being closed, the pressure of the vapors generated will soon equalize the heat throughout the contents of the retort, and the valve connected with the condenser may be so regulated that the pressure will be constantly maintained during the process.

Claim.—Distilling wood under more than atmospheric pressure without the application of steam or superheated steam.

No. 49,250.—J. W. FAWKES, Decatur, Ill.—*Corn Planter.*—August 8, 1865.—In this corn planter a certain degree of vertical play is imparted to the slide which allows the passage of the corn through the bottom of the hopper, in order that when a kernel in the seed cell of the slide comes in contact with the cut-off the slide may yield and permit the kernel to pass out of the cell up into the hopper as the cell passes underneath the cut-off. In this way the kernel is not broken.

Claim.—The pivoted bars D D and springs E E, or their equivalents, in connection with the reciprocating slide B, provided with the cells *a a*, substantially as and for the purpose set forth.

No. 49,251.—MILTON FINKLE, New York, N. Y.—*Wire Heddles for Loom Harness.*—August 8, 1865.—In this invention the heddle is formed of a single piece of wire, made round and bent so as to form the eye, and also the links at the ends for securing it to the heddle frame. The wire is not flattened at the eye or elsewhere, and all sharp angles in the eye are avoided.

Claim.—First, making weavers' heddles of a single strand of wire, substantially as and for the purpose above described.

Second, forming the eyes of wire heddles with smooth surfaces by bending the strand, substantially as above described.

Third, soldering the eyes of wire heddles, for the purpose of keeping them compact and firm, substantially as above described.

No. 49,252.—JOHN J. G. FISHER, Foxboro', Mass.—*Clamp for Straps.*—August 8, 1865.—This invention consists in a strap fastener in which the strap is secured at any required point, by means of a holding plate, working in a box or frame, and operated by a screw for giving the pressure.

Claim.—The holding plate D, operated by the screw *b*, or equivalent mechanical device, in combination with the box or frame B, operating substantially as set forth.

No. 49,253.—JAMES A. FOSTER, West Stockholm, N. Y.—*Artificial Leg.*—August 8, 1865.—The nature of this invention will be understood by reference to the claim and engraving.

Claim.—The lever P of the toe-piece I, in combination with the stop *q* of the foot and the spring cord *k*, substantially as and for the purpose herein specified.

In combination with the cork *k*, the adjusting arm M and lever H, so arranged and operating that the tension of said cord may be modified by merely moving the arm outward or downward, substantially as herein set forth.

Also, the combination and arrangement of the lever H, spring *m*, and nut *n* with the bolt G and boxes *i i* in such a manner as to tighten the knee joint and to obviate its rigidity, as herein specified.

Also, the arrangement of the ankle joint, consisting of the iron D, provided with the central bearing *f*, the bolts *b b*, and the turning eye E, constructed as described, the whole being used in combination with the foot C and ankle B, substantially as specified.

Also, holding the cord *k* in place to prevent friction and wear in its action, by means of the loop *w*, arranged and operating as herein set forth.

Also, the inclined stop *s*, in the heel of the foot, in combination with the bearing *e* of the ankle, substantially as herein set forth.

No. 49,254.—EDWARD J. FROST and GEORGE A. LAWRENCE, Springfield, Mass.—*Electric Gas Lighters.*—August 8, 1865; antedated July 24, 1865.—This invention consists in operating the valve of the gas tube by means of a lever attached to an axial bar, hung between

the electro-magnets. The passage of a current of electricity around either of the magnets attracts the axial bar, thus operating the lever and opening or closing the valve respectively by means of a platinum wire over the jet and connected with the circuit opening of the valve, by which means the gas is ignited. The valve consists of the frustrum of a cone, passing through the pipe, perforated transversely to its axis.

Claim.—The combination of an electric magnet with a valve D, or its equivalent, when applied to the pipe of a gas-burner and operated by means of the axle bar G, as set forth.

Second, the valve D, as described, when used in combination with the axial bar G, or its equivalent, substantially as described.

No. 49,255.—P. ELDREDGE GARVIN, Philadelphia, Penn.—*Removing Scale from Boiler Flues.*—August 8, 1865; antedated March 30, 1865.—This invention consists of a cutter revolving on a screw, which passes entirely through the tube of a steam boiler for the purpose of removing the scale therefrom. The cutter is worked by a ratchet wrench which gives it the necessary rotary motion, while the screw keeps it fed up to its work.

Claim.—The arrangement of the screw D, the cutter E, the base plate F, with the conical-shaped collar *c* and the groove *d*, the dog H, and the thumb screw K, constructed and operated for the purpose and in the manner as herein described.

No. 49,256.—WILLIAM T. GILLINDER and EDWIN BENNETT, Philadelphia, Penn.—*Fruit Jar.*—August 8, 1865.—This invention consists in constructing the cover with an annular groove on its lower surface to hold the packing, a depression being made within the groove into which the elastic packing is forced, when the cover is secured to the jar.

Claim.—The formation of the groove in the cover, with shoulders supporting the elastic pad, and with a central depression into which the pad is forced by the upper edge of the jar on the downward pressure on the cover by the screw-cap, substantially as described.

No. 49,257.—ELLIOT P. GLEASON, New York, N. Y.—*Gas Fitters' Hook Blank.*—August 8, 1865.—This invention consists in cutting from a strip of sheet metal a blank, in appearance like two narrow wedges, united at their heads, forming on one edge a straight surface on the inclined ones, the wider head projecting outside of or beyond the line of the other, and forming a shoulder, which, in the finished hook formed from the blank, is for the purpose of receiving the blow of the hammer in driving.

Claim.—The hook blank, or its equivalent having a contour substantially as described, as a new article of manufacture.

No. 49,258.—SAMUEL GREEN, Denver, Colorado Territory.—*Composition for Exterminating Grasshoppers.*—August 8, 1865.—This invention consists of a mixture of lime water, ley, tobacco juice, phosphorus, arsenic, petroleum, opodeldoc, camphor, turpentine, beef gall, sulphur, and cayenne pepper.

Claim.—The combination and mixture and preparation of the above-enumerated ingredients in the aforesaid manner, for the purposes above set forth, and the exclusive right to prepare the same for use and sale in those sections of the United States where grasshoppers are so numerous as to completely destroy growing crops.

No. 49,259.—GEBHARD HAGENMEYER, Big River, Cal.—*Grease Cup.*—August 8, 1865.—The object of this invention is to introduce lubricating material to the frictional parts of various enginery in a more economical and convenient way than heretofore; and it consists in the arrangement of the vent-hole valve, bulb, cup, stems, and seats.

Claim.—The arrangement of the valves B B′, the stems C C′, the seats *c c′*, bulb A, cup D, and vent-hole valve *i*, in the manner and for the purpose substantially as herein shown and described.

No. 49,260.—JOEL A. HALL, Memphis, Tenn.—*Cane Stripper.*—August 8, 1865.—In this device there are two sets of curved knives, between which the stalks of cane are drawn; the first set strips two sides, and the other set strips what remains. Guide rollers are attached to the knives a little forward of their edge, which regulate the depth of the cut.

Claim.—First, stripping the blades from cane by means of two pair of curved yielding knives, arranged in such manner that the second pair of knives will complete the work left unfinished by the first pair, substantially as described.

Second, providing the knife blades or strippers with auxiliary cutters *i i*, substantially as described.

Third, the combination of guide rollers with cane strippers, substantially as described.

No. 49,261.—WILLIAM SMITH HALL, Quincy, Mass.—*Buckle.*—August 8, 1865.—This invention consists in a clamp buckle with a tongue, having hooks so applied that the strain of the strap upon them clamps the edge of the tongue down upon the strap.

Claim.—The improved clamp buckle, as made, with a tongue, having hooks, so applied that the strain of the strap upon them clamps the edge of the tongue down upon the strap substantially as set forth.

No. 49,262.—THOMAS J. HALLIGAN, New York, N. Y.—*Sewing Machine.*—August 8, 1865; antedated February 8, 1865.—This invention is designed for sewing with waxed thread upon leather and similar material, and has devices for heating the wax and waxing the thread, and also for heating the parts near which the thread must pass after it is waxed. It contains, also, some modifications in the form of the shuttle, of the needle, of a positive take-up lever, feed wheel, all intended to facilitate the operations of the machine for this character of work.

Claim.—First, waxing the thread on its way to the needle by passing the thread through a wax cup, which is provided with an elastic bottom *t*, and also with means for keeping the wax in the cup in a fluid state, substantially as described.

Second, the elastic bottom *t* and the guide tube *t*1, which is attached to the wall of the wax cup H′, applied together in the construction of a sewing machine, substantially as described.

Third, the combination of the take-up B′, needle bar A2, waxing contrivance H′, and shaft B, substantially in the manner described, for the purpose of re-waxing the thread, as set forth.

Fourth, the manner shown of arranging the vibrating take-up arm B′, in connection with the shaft B, and operating this arm by means of this shaft B, which is arranged at right angles to the line of feed, and which also operates the needle bar, substantially as described.

Fifth, holding the work down upon the table during the upward movement of the needle bar by means of a pressure foot *c′*, which rises at the proper time to allow the work to be fed under the needle, and which is located to one side of the needle and of the pressure pad, and is operated by the devices, as described.

Sixth, the hinged screw rod *r*2 and adjusting nut S, applied to the open, forked end of the pressure lever *r′*, substantially as described.

Seventh, so applying the awl *m* to the needle bar A2 that this awl can be adjusted and set nearer to or further from the needle *m*, according to the length of stitch required, substantially as described.

Eighth, the use of the vibrating and longitudinally adjustable lever D, in combination with the shaft C and pawl *e′*, for giving motion to the feed wheel E, substantially as described.

Ninth, the combination of levers D′ E′ and D, for adjusting the pawl *e′*, substantially as described.

Tenth, the use of two or more ratchet wheels, having teeth of different lengths, in combination with a feed wheel E and adjustable spring clamp G, substantially as described.

Eleventh, in the construction of a skeleton or open shuttle-carrying frame, the combination of the stirrups *h h*, bars *i i*, rear abutment *j*, and spring *k*, these parts being formed and arranged in the manner and for the purpose described.

Twelfth, the use of two or more transverse bars *t*2 *t*2 within a space *t* of a shuttle, for the purpose of creating tension upon the lower thread of a sewing machine, combined with the depression *t′* for allowing the thread to traverse laterally back and forth the full length of the bobbin, and preventing the thread from over-riding, as herein described and set forth.

Thirteenth, a device for smoothing the wax thread on its way to the needle, consisting of a metallic clamp *p p′* constructed and operating as described, and encircling a rubber block *p*2, through which the thread passes.

Fourteenth, a needle for using wax thread, which is formed with a groove 2, extending above and below the eye on one side, and a groove 3, extending only above the eye on the opposite side, and with its eye inclined as far as practicable in a direction approaching the axis of the needle, and otherwise constructed, substantially as and for the purpose set forth.

Fifteenth, heating that part of the face of the shuttle race plate which is in close proximity to the place where the leather is being severed, by means of a lamp or burner, applied substantially as and for the purposes set forth.

No. 49,263.—JOSEPH HARRISON, jr., Philadelphia, Penn.—*Steam Generator.*—August 8, 1865.—This invention consists in forming the sections of cast-iron generators in such a manner that they are held in proper position without the use of coils, as described in a patent to the same party in October, 1859. It also consists in the manner of making the cross connections at different points in the generator between the sections composing the same, and in filling the space between the spheres in the exterior sections, so as to form a casing or wall for the interior sections.

Claim.—The manufacture of the slabs of my steam generator in sections, cast or formed of one or more pieces, omitting wholly or in part the tie rods or bolts and the joints described in specification of patent granted October 4, 1859.

Also, the manner of making the cross connections at one or more corners, or other points of the slabs, for water and steam, by the use of intermediate castings, having spherical or curved surfaces at the joints, in the mode and for the object set forth, or in any other manner substantially the same, for accomplishing the like purpose.

Also, the manner of combining the thin web with the spheres, as described, for the purpose of making a tight wall or casing for boilers, in the setting of which it is desired, wholly or in part to dispense with brick-work.

No. 49,264.—JOSEPH HARRISON, jr., Philadelphia, Penn.—*Mode of Making and Venting Cores for Casting.*—August 8, 1865.—This invention consists in forming the cores around a perforated tube, which, when in its place within the mould, is exhausted of the gas or vapor formed within it by the heated metal when being poured, by an air pump, or a communication with an exhausting receiver. The moulds are vented in the same manner by placing the perforated tubes at a proper position within the sand of which the said moulds are formed.

Claim.—The mode of making, using, and venting cores or moulds for castings, as above described, for the purpose of strengthening them, when made of weak, moist sand, or similar material, and for the better venting the same by availing of a vacuum, as above described, when the molten metal is poured into the mould.

No. 49,265.—A. A. HAZARD, New York, N. Y.—*Corn Planter.*—August 8, 1865.—In this invention the seed is distributed by the action of a roller with one or more seed cells, to which an oscillating motion is imparted, either by a trigger attached to one of the handles of the plough, or by the action of a pin or cam projecting from the covering roller, said seed-distributing roller being subjected to the action of a spring, which carries it back to its original position after each discharge of seed.

Claim.—The oscillating and distributing roller *b* in combination with the furrow opener B, track-clearing wings *a*, spring *g*, lever *e*, trigger *f*, handles D D, and adjustable covering roller E, all constructed and operating in the manner and for the purpose herein shown and described.

No. 49,266.—ALONZO HITCHCOCK, New York, N. Y.—*Forging Cannon.*—August 8, 1865; antedated July 30, 1865.—This invention consists in constructing a cannon by the successive superposition upon, and welding to, the breech piece, and upon and to each other, of a series of wrought-iron rings, and in the apparatus used for that purpose. There is employed in the operation a reverberatory furnace, having at a little distance from each other two circular openings in its sole, one of which is occupied by a pile of rings resting upon a flat table, which is supported from below by a vertical screw, and the other by the cannon while being built up; the anvil upon which the breech rests being supported from below by the ram of a hydrostatic press. Two openings having coverings to fit them are made through the covering arch of the furnace, one directly over the pile of rings, and the other over the cannon, and above the latter opening is a hammer worked by steam. In practice the pile of rings and the forging are each so adjusted that the upper surface of the uppermost ring and the upper surface of the breech piece or end of the forging will project above the sole of the furnace, so as to be exposed to the heat, and when the two are properly heated the dampers are closed, the covers removed from the openings, and the heated ring is taken off its pile, and laid over upon the upper end of the forging, when the hammer is put in operation to weld the two together in the furnace. After this the covers are replaced; the pile of rings is elevated so as to bring another ring above the sole, while the gun is lowered so as only to expose its upper surface, and the heating and welding take place successively, until the cannon is built up to the proper length.

Claim.—Making a cannon or other large forging by welding it in the furnace by the apparatus and in the method substantially as described.

No. 49,267.—SAMUEL F. HODGE, Detroit, Mich.—*Slide Valve for Steam Engines.*—August 8, 1865.—The object of this invention is to cause an equilibrium of steam pressure on the valve, for the purpose of avoiding abrasion of the valve and its seat. It consists also in the arrangement of the follower, the packing, stuffing box, adjustable gland, and valve.

Claim.—The combination and arrangement of the follower C, packing *b*, stuffing box B, adjustable gland E, and the valve D, substantially as described.

No. 49,268.—CHRISTIAN HOFFMAN, Philadelphia, Penn.—*Tobacco Pipe.*—August 8, 1865.—This invention consists of a double socket of horn or metal made in shape of U, and joined together near their upper ends by a small tube; in one branch of this the stem is inserted, and in the other a shoulder on the bottom of the bowl is inserted. The end of the stem and the shoulder on the bowl are both tapered down to a small point, so contrived as to effectually prevent the oil from coming to the mouth-piece. The smoke is drawn through the small cross tube.

Claim.—The combination and arrangement of the bowl A, the drip pipe C, the drip chamber B, the tube D, the drip chamber E, and the neck G, substantially as herein shown and described.

No. 49,269.—FRANKLIN HOLDEN, Clyde, Ill.—*Horse Rake.*—August 8, 1865.—This invention consists of devices whereby the rake is made adjustable with reference to the ground, and is held firmly in position while gathering the load.

Claim.—First, the suspending of the rake head G to the frame A of the machine, by means of swinging rods D D, connected by chains H to the axle A, substantially as and for the purpose set forth.

Second, the pawl O connected with rod P in connection with the bar N in the rake head and handle K, all arranged substantially as and for the purpose specified.

Third, the combination of the handle K, pawls M O, bar N, and suspended rake, all arranged with a mounted frame, to operate substantially as and for the purpose set forth.

No. 49,270.—H. M. HOOVER, New York, N. Y.—*Stair Rod.*—August 8, 1865.—This invention consists in making the rod of a plate of metal, and facing the same with hard rubber.

Claim.—The rubber stair rod, constructed substantially as herein described, as a new article of manufacture.

No. 49,271.—LIVERAS HULL, Charlestown, Mass.—*Tension Mechanism for Looms for Weaving Goods with Elastic Strands.*—August 8, 1865.—In this invention by using two or more wheels, around each of which the elastic threads employed in weaving elastic goods are coiled on their passage to the warps in the loom, a greater uniformity of stretching is insured, and the woven elastic fabric is not liable to be puckered.

Claim.—The improved elastic strand tension apparatus, substantially as described, the same consisting of two or more wheels A B C, and a friction band *e* and weight *f*, or the equivalent thereof, arranged and applied together and to the strand substantially as specified.

No. 49,272.—JOSEPH and ABRAHAM HURSH, Philadelphia, Penn.—*Facing Mould.*—August 8, 1865.—This invention consists in the use of ochre, combined with charcoal, stone coal or other substance, for facing moulds. It may be mixed with water, and used as a wash, or it may be applied in the form of powder.

Claim.—First, the use of ochre in its powdered state for facing green sand moulds, substantially as described.

Second, the use of ochre as a wash for facing cores and dry sand moulds, substantially as above set forth.

No. 49,273.—JOSEPH and ABRAHAM HURSH, Philadelphia, Penn.—*Apparatus for Separating Ochre from Sand.*—August 8, 1865.—This invention consists of a room into which the sand is blown through the trunk by means of a fan. The trunk communicates with a conical chamber, which is kept sufficiently high to prevent the air from carrying the sand into the room into which the ochre passes. The sand passes out through a chute.

Claim.—First, separating ochre from the sand which contains it in its natural state by means of a current of air, in such a manner that the sand falls while the ochre is borne forward into a separate place of deposit.

Second, the combination of the fan C with the chamber G and room A, the whole being constructed and arranged in relation to each other, substantially as described and for the purpose specified.

Third, burning the ochre or subjecting it to a great heat for the purpose or completing its adaptability for facing moulds for castings, substantially as described.

No. 49,274.—JAMES IVES, Mount Carmel, Conn.—*Lantern.*—August 8, 1865.—This invention consists in attaching a chimney to a lantern burner, in such a manner that in removing the lantern globe or frame from over the reservoir by a finger, the chimney will be held in place inside the frame thus removed.

Claim.—First, a chimney or cone base, fitted to the reflector, base, or globe frame of a lantern, so as to move with said frame, or maintain its position with relation thereto, when either the frame or the lamp is adjusted so as to expose the wick tube or top of the lamp, substantially as described.

Second, the devices herein described for connecting the chimney or cone base to the reflector or globe frame of a lantern, in such a manner that the base may at will be disconnected from the said frame, substantially as set forth.

No. 49,275.—PICKMORE JACKSON, Saugus, Mass.—*Last.*—October 8, 1865.—This invention consists of a spring fastener applied to the base and back of a last block, so as to spring into a mortise when the block is fully pushed in, whereby the block is prevented from slipping back in the operation of making the shoe.

Claim.—First, the spring fastener C applied to the base and back of a last block, and operating in combination with the mortise, substantially as set forth and for the purpose described.

Second, the spring G and eye or staple F, or their equivalents, in combination with the spring C, substantially as and for the purpose described.

No. 49,276.—SAMUEL F. JONES, St. Paul, Ind.—*Ditching Machine.*—August 8, 1865.—The function of this invention is to cut a ditch of any desired depth, in which tiling may be laid, for the purpose of draining land. It is provided with colters which precede the share, and with an endless apron which follows the shares and removes the earth. The colters and shares are attached, by means of chains, to windlasses, on the framework of the machine, and are thus made to cut as deeply as desired.

Claim.—First, the drag bars *d d'*, with adjustable colters W W', and braces *o o'*, when arranged as shown and described, for the purpose set forth.

Second, the self-adjusting scoop I, apron F, and weighted lever *m*, when arranged substantially as shown and described, for the purpose set forth.

Third, the method of hanging the upper ends of the sides of the trough M, on the projected ends of the boxes *a'' a''*, whereby a uniform length of the carrying band is obtained, independent of the position of the lower end of the trough.

Fourth, in combination with the colters W W', scoop I, apron F, projected boxes *a'' a''*, the spools *n m*, chains *i i'* and *r r'*, carrying band D, scraper Z, and conveying spout E, when arranged as shown and described for the purpose set forth.

No. 49,277.--MILES JOY, West Greenfield, Penn.—*Boring Tool.*—August 8, 1865.—In this device the ordinary jar in use is attended with some disadvantages; it is liable to get fast in the bore, and is subjected to considerable wear in consequence of being in contact with the grit in the wall of the well; it is also liable to break when worn, and to withdraw it from the well is a task of considerable difficulty. These disadvantages, it is alleged, are fully obviated by this invention.

Claim.—A jar for a well-boring apparatus, composed of a pipe A, having a slot *d* in it extending nearly its whole length, a plug B secured in its lower end, and a thimble C on its upper end, containing a plug D, having a square hole made in it for a rod, E, to work through, which rod E is provided with a head F at its lower end, said pipe A enclosing the rod E, with its head F, and protecting it from injury, substantially as herein described.

No. 49,278.—WILLIAM B. KIMBALL, Peterboro', N. H.—*Cooking Stove.*—August 8, 1865.—This stove may be used as an open fireplace or a close cook stove. For this last purpose there is a grate arranged in the usual way, and for the former purpose the front part of the oven bottom is thrown back by a suitable wrench, and forms the rear plate of an open fireplace, the front doors in the lower part of the stove being slid aside; the lateral ribs on which this plate rests can be used as an iron. In this case the products of combustion find their way up between the grate and front plate of the stove, and thence by the usual channels to the exit flue.

Claim.—First, in cooking and heating stoves, the bottom plate H constructed and operating substantially as described, so that it may become at pleasure part of the bottom of an oven, or the fire-back of a supplementary fireplace.

Second, sliding the partitions N N of the lower flue space, so as to contract or extend the flues Q P Q, substantially as and for the purpose described.

Third, the means above described for operating the sliding partitions, to wit, the extension *c* of the bottom plate, and the projections *e d* of the partitions, substantially as shown.

Fourth, the front flue C, and its damper B, in combination with the space F below the fireplace A, for the purpose of making a flue when that space is formed into a fireplace, substantially as described.

No. 49,279.—WILLIAM A. L. KIRK, Hamilton, Ohio.—*Sewing Machine.*—August 8, 1865.—This invention relates to the manner of communicating a rocking motion to the saw-bar to the pitman at a point intermediate between the crank and cross-head.

Claim.—The arrangement herein described of the crank B, pitman C, cross-head D, with a saw or saw-bar connected to the pitman at a point intermediate between the said crank and cross-head, for the purpose specified.

No. 49,280.—TOBIAS KOHN, Hartford, Conn.—*Machine for Cleaning and Finishing Silk and other Thread.*—August 8, 1865.—In this invention the frame carrying the rollers about which the thread is coiled, has a horizontal reciprocating motion.

Claim.—The combination of the reciprocating series of rollers *d*, reciprocating guiding bar *p*, and the rotary shaft N, upon which the spools are mounted when the said parts are constructed and arranged to operate in the manner and for the objects specified.

No. 49,281.—O. B. LATHAM, Seneca Falls, N. Y.—*Rock Drill.*—August 8, 1865.—This invention consists in placing in a mortise through the stock of a drill, reamers made in sections, and rendered reversible to keep them longer in working order.

Claim.—Constructing the reamer with cutting angles, both above and below, making them reversible and adjustable in the body of the drill, substantially as specified.

No. 49,282.—LEWIS LILLIE, Troy, N. Y.—*Lock.*—August 8, 1865.—This is a revolving tumbler lock, each tumbler being composed of an outer ring and an inner flat disk as usual, secured to each other by two cams which are forced up by springs. A peculiarly shaped movable plate lies in front of the tumblers, and is connected at its upper edge, by means of two projecting arms, with another plate suspended from the opposite ends of said arms, back of the tumblers and within reach of one of two bits on the inner end of the knob arbor. A broad stump for entering the notches in the tumblers projects from the end of a vertical bar which is pivoted at the upper end to the lock-plate. This bar has a mortise through it which is occupied by a stub projecting from the movable plate, both being of peculiar shape, and

so arranged that not until the stump has been forced into the notches by a spring can the movable plate be raised up. Two dogs for holding the bolt either in a locked or unlocked position, are so arranged as to be lifted out of their respective notches in the edge of the bolt, by spurs projecting from said plate, whenever the same is raised up by the bit upon the arbor.

Claim.—First, the employment of the grippers *i i*, operated by means of the springs *h h*, in combination with the combination wheel F, and with the set wheel L, the whole being constructed and arranged in the manner and for the purposes substantially as herein described and set forth.

Second, the anti-micrometer or vertical latch H, actuated by means of the spring *y*, and by the triangular post or pin *t*, in combination with the lifting slide C, each being constructed and arranged in the manner substantially as and for the purposes herein described and set forth.

Third, the employment of the triangular post or pin *t*, in combination with the sexangular slot V in the anti-micrometer latch H, in the manner and for the purposes substantially as herein described and set forth.

Fourth, the employment of the lock-bolt stops R and N, in combination with the lifter slide C, and with the lock-bolt B, each being constructed and arranged in the manner and for the purposes substantially as herein described and set forth.

Fifth, the employment of the bolt driver S, firmly fastened to the inner end of the central shaft G, in combination with the lock-bolt B, and with the lifting piece E, securely fastened to the cross-piece E′ of the lifting slide C, in the manner and for the purpose substantially as herein described and set forth.

Sixth, the combination of the conical barrel D with the central shaft G, and with the combination wheel F, in the manner and for the purposes substantially as set forth.

No. 49,283.—HORACE LITTLEFIELD, Lewis, Iowa.—*Scaffold.*—August 8, 1865.—This invention consists in the construction of a scaffold, held in position against the building by means of adjustable braces, easily removed, to admit of the position being changed as often as needed.

Claim.—First, the end supports A B *a b*, in combination with the platform D, and legs C, constructed substantially as herein described.

Second, the legs C, in combination with the end supports A B *a b*, substantially as specified.

Third, the railing E, stanchions *c c′*, in combination with the platform D and end supports or brackets A *b*, substantially as herein specified.

No. 49,284.—K. H. LOOMIS, Baltimore, Md.—*Cut-off Valve Gear.*—August 8, 1865.—This invention consists in combining a lever with a curved slot in it, in which slot slides a plate which is connected with the governor by a rod that operates the rod in the slot, by which means the point of cut-off is controlled. The slotted arm is vibrated by some of the moving portions of the machinery upon this rod, and on each side of the rock shaft arm is an adjustable collar, by means of which the amount of vibration imparted to the valve is regulated, and also the time the valve is allowed to dwell in the position it assumes, after having cut off the steam from one end of the cylinder, is determined.

Claim.—First, the plate G, sliding in the lever F, attached to the valve-spindle, and jointed to and operated by the governor rod V, and sliding rod H, or its equivalent, all substantially as and for the purpose specified.

Second, the rod H, with its adjustable lugs *k k*, connected to the plate G, and operated by the vibrating lever W, or its equivalent, substantially as and for the purpose set forth.

No. 49,285.—T. R. MARKILLIE, Winchester, Ill.—*Whiffletree.*—August 8, 1865.—This invention consists in providing means for working three horses abreast upon the same lever, in such a manner as to give to each his due proportion of labor, and at the same time allow them to stand close together.

Claim.—First, the levers C and F combined with each other, and with braces D and E, constructed and operated substantially as and for the purposes specified.

Second, in combination with devices for working three horses abreast, the braces G, constructed and operated as and for the purposes specified, substantially as described.

No. 49,286.—JOHN M. MAY, Janesville, Wis.—*Gate.*—August 8, 1865.—In this invention, upon the bottom of a central post of a horizontally moving gate is fasteneed at right angles a short supporting arm, which carries a friction roller. This is combined with other devices for moving the gate.

Claim.—Friction roller J, or its equivalent, in combination with grooved rod N, used in constructing a gate, and wheels E and F, used in operating a gate, and for analogous purposes, when the whole are arranged and operated substantially as described.

No. 49,287.—ROBERT MCCONNEL, Jacksonville, Ill.—*Tool for Fastening Tubes in Boilers.*—August 8, 1865.—This invention consists of a cylindrical mandrel or shank, having a number of longitudinal grooves in its periphery, increasing in depth from its outer

to its inner end, the bottom of said grooves forming a tapering or wedge-shaped foundation for a corresponding number of bits or sliding dies, part of which are for forming the bead on the tube inside of the tube sheet, the other for flanging or turning out the end of the tube against the said sheet.

Claim.—A tool for fastening boiler tubes, composed of a mandrel, with a series of inclined grooves, in combination with a double set of dies *d e* and nut *h*, to be used in connection with the expanding dies *e*, substantially as and for the purpose set forth.

No. 49,288.—H. L. MESERVEY, Boston, Mass.—*Washing Roller.*—August 8, 1865.—This invention consists of a roller for washing with the hand, composed of one or more revolving frames, carrying a series of rollers in combination with a handle.

Claim.—A hand-washing roller, consisting of one or more revolving frames B, carrying a series of rolls C, in combination with a handle, operating substantially as described.

No. 49,289.—O. E. MILES, Aurora, Ill.—*Vehicle.*—August 8, 1865; antedated August 7, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The spring D, in combination with the truss A, short axles *b*, and wheels B, fixed on the latter, all arranged relative to each other, and to the other parts E, &c., of the vehicle, substantially in the manner and for the purpose herein set forth.

No. 49,290.—J. H. MULTIMORE, Milwaukee, Wis.—*Lantern.*—August 8, 1865.—This invention consists in devices to aid in the removal of the globe from the form, and also to secure the lamp into the bottom of the lantern.

Claim.—First, the disk or ring D, provided with the lugs *e*, in combination with the projections *o* of the base B, arranged and operating as and for the purpose set forth.

Second, the band E, provided with the inclines *l*, in combination with the rod *n*, as and for the purpose set forth.

Third, securing the lamp by means of the bar or strip *f* and arms *g*, when arranged to operate as described.

No. 49,291.—C. A. MOORE, Westbrook, Conn.—*Scrubbing Knuckle Shield.*—August 8, 1865.—This invention consists of a shield, made of India-rubber, and placed over the hand to protect it in scrubbing and washing clothes.

Claim.—The above-described article or shield, as my invention, as and for the purpose specified.

No. 49,292.—W. C. MORSE, Boston, Mass.—*Car Coupling.*—August 8, 1865.—This coupling consists of a shackling pin in the forward end of an elbow lever. When it is to be set for use, the elbow lever with the pin is raised by hand, so as to bring the pin clear of the drawhead, and is held in that position by an automatic pawl. When the cars are brought in contact to be connected, a bar, projecting through one of the bumpers, is forced inward by the bumper of the other car, and striking against the pawl, which supports the aforesaid elbow lever in its elevated position, withdraws it from the lever and allows the latter to fall, bringing the pin with it. The latter is thus passed through the link which has been previously inserted.

Claim.—First, the grooved and pivoted cheeks J′ J′, in combination with the yielding clamps J J, substantially as set forth and for the purpose described.

Second, the arm G, projecting in front of the bumper A, in combination with the lever E and shackle pin D, substantially as and for the purpose described.

Third, the link or dog F, in combination with the arm G and lever E, for the purpose of holding up the latter, substantially as described.

No. 49,293.—DAVID NATION and T. B. HALL, St. Louis, Mo.—*Oscillating Steam Engine.*—August 8, 1865.—The object of this invention is to secure, in the least possible room, an engine of comparatively large effective force, and of economical construction. It also consists in the combination and arrangement of the segmental boxes, oscillating pistons, piston rod, steam chests, valve, pitman, and eccentric pins.

Claim.—The combination and arrangement of the segmental boxes B C, oscillating pistons E E D, piston rod G, steam chests *d d′*, valves *e′*, pitman *n*, and eccentric wrist pins *e o*, as and for the purposes herein specified.

No. 49,294.—G. J. NEVEIL, Philadelphia, Penn.—*Machine for Bending Metal Rods.*—August 8, 1865.—This device consists of a horizontal lever, the short arm of which forms the head around which the bar to be operated is bent. This head has a transverse slot, through the lower end of which passes a fulcrum pin, supported by a standard projecting above, and at the side of an anvil on a suitable frame. Between this anvil and the head, the bar to be bent is placed, and secured to the latter at a suitable point by a clamp. The lever is then raised to a vertical position, and the head slid backwards until the pin is in the opposite end of the slot, when the lever can be turned down in an opposite direction from its first position. By turning a cam in a recess in the face of the anvil that portion of the

bar between it and the lever is pressed up against the latter and made to assume a shape corresponding to that on the opposite side of the head, and finishes the operation.

Claim.—the lever D, with its slot *c*, the anvil C, and pin *b*, combined with the levers E F I and the cam H, or their equivalents, so that a bar of metal may be bent to a shape corresponding with that of the end of the lever, substantially as specified.

No. 49,295.—JACOB NEWKIRK, Factoryville, N. Y.—*Packing for Tubes of Boilers or Condensers.*—August 8, 1865.—This invention consists of a ring of a conical form on its outside diameter, and is cut so as to insure its perfectly fitting the tube; this ring is placed upon the tube, and is covered by another, which has a conically-formed recess in it to receive the first named ring. The last named ring is held in contact with the first and with the boiler head by means of hook bolts, which pass through the boiler head and receive a nut upon the outside thereof, by which the packing is tightened around the tube and against the head of the vessel.

Claim.—The combination of a conically-recessed holding, and a conical-shaped packing ring fitting therein, both rings being held and tightened up against the head and the tube by screw bolts for holding and packing tubes to the head of steam boilers or condensers, substantially in the manner and for the purpose described.

No. 49,296.—J. E. PARKER, West Meriden, Conn.—*Door Bolt.*—August 8, 1865.—In this invention the bolt is designed to be placed at the bottom of the door, and is arranged so as to be actuated by the foot. By placing the toe upon the top of the bolt it is forced down against the spring, when the spring-actuated lever catches in the notches upon the side of the bolt and holds it down, then by pushing against the upper end of the spring lever it releases the bolt, and the springs raise it up.

Claim.—The combination of the bolt *a*, spring *f*, and dog *g*, substantially in the manner and for the purposes set forth.

No. 49,297.—JACOB POST, Newark, N. J.—*Lock.*—August 8, 1865.—In the night latch of this lock the bolt projects outside the lock case at either end, and near the rear end has two notches in its upper edge for the purpose of holding the bolt, either projected or retracted, which is done by raising the lower end up, until one or the other of these notches embraces the edge of the lock plate, and it is held in this position by a spring and a dog, or tumbler. When not engaged with the case, as above described, the bolt may be freely operated by a key from the outside, but when so engaged it cannot be moved by the key.

Claim.—The combination with the notched latch bolt *c* of a lock of the spring bar or plate *g*, and arranged together with regard to each other, and operating substantially as herein described and for the purpose specified.

No. 49,298.—JACOB POST, Newark, N. J.—*Lock.*—August 8, 1865.—This invention consists in the arrangement of a series of tumblers within a revolving key cylinder, fitted in a tube which projects from the lock through the door, the tumblers being flat pieces lying within recesses on each side of the turning cylinder, with their inner ends bent outward and resting upon springs. Two stubs project from the inner surface of the lock plate and obstruct the movement of the cylinder in any attempt made to turn the same, except when operated by a key, by which the several tumblers may be forced in until their bent ends shall coincide with certain grooves cut in one side of each of the two stubs.

Claim.—The combination in locks of the turning cylinder *h* with its series of tumblers *n n n*, outer casing or tube *d*, and bridges S S, arranged together and operating substantially in the manner described.

No. 49,299.—JOHN POWER, Boston, Mass.—*Machine for Slicing Cork.*—August 8, 1865.—The object of this invention is to slice cork into suitable strips, from which the corks are cut, and it consists in the employment in a machine for this purpose of an adjustable gauge in two directions, furnished with a plug, against which the cork bears, that is flexible, in order to give way as the knife passes through and cuts the cork asunder.

Claim.—The yielding adjustable plug E in combination with the gauge D, constructed and operating substantially as and for the purpose described.

No. 49,300.—G. M. RAMSEY, New York, N. Y.—*Torpedo Boat.*—August 8, 1865.—In this invention this boat has attached to its bows a rod, made adjustable vertically, which runs longitudinally through a boat-shaped torpedo, or shell, in order that the torpedo, by sliding on the rod, may be fixed at any distance from the torpedo boat, within the length of the boat. The torpedo has a partition separating the charge from the lock, &c.; also a hand hole, through which to prime the lock with percussion caps.

Claim.—First, the inclination of the roof A of a torpedo boat, as and for the purposes specified.

Second, the hole *e*, constructed and situated substantially as described.

Third, the ratch *n*, in combination with the pawl P, bar *m*, and boom O, substantially as and for the purpose described.

Fourth, the springs *s*, in combination with the bar *m*, substantially as described.

Fifth, the bars *r r*, in combination with the bar *m*, as and for the purpose specified.

Sixth, the tube *b*, running longitudinally through the torpedo, substantially as and for the purpose specified.

Seventh, the division *c*, separating the magazine of the torpedo from the lock *a*, substantially as and for the purpose specified.

Eighth, the cock *d*, in combination with the powder tube *e*, substantially as and for the purpose specified.

Ninth, the rod *f*, in combination with tube *g*, and gutta-percha and tube *i*, substantially as and for the purpose specified.

Tenth, the pin *h*, in combination with the lock *d* and rod tube *g*, substantially as and for the purpose specified.

Eleventh, the hand hole through which the cap is supplied to the cock *d*, substantially as and for the purpose specified.

No. 49,301.—FRANKLIN RANSOM, Buffalo, N. Y.—*Air Pump.*—August 8, 1865.—In this invention two upright cylinders are connected at their base. In one moves a solid piston, its rod passing through a close stuffing box. The other cylinder has near its centre, at one side, a flap valve opening downward, and above a puppet valve, opening into an air chamber, having an escape port at the top. The cylinder being partially filled with water with the ascent of the piston, the flap valve opens to admit air, and with its descent the flap valve opens and the air is forced out by raising the puppet valve.

Claim.—First, combining the elevated chamber C, having the valve *d*, as shown, with the pump cylinder B, by means of a hollow bed plate A, through which a constantly open communication between the said chamber and cylinder is maintained, substantially as herein specified.

Second, the arrangement of the chamber C, condensing chamber D, and valves *d c*, substantially as and for the purpose herein specified.

No. 49,302.—E. D. and O. B. REYNOLDS, North Bridgewater, Mass.—*Seeding Machine.*—August 8, 1865.—In this machine the seed box itself has a reciprocating vertical motion given it by a crank shaft that is geared to the barrow wheel. The motion of the seed box shakes the seed-delivering tube.

Claim.—A seed sower, having a reciprocating seed box, operating in the manner and for the purpose substantially as set forth.

No. 49,303.—J. W. RICKER and T. S. LEWIS, Chelsea, Mass.—*Corn Sheller.*—August 8, 1865.—This invention consists of a conductor or spout loosely hung by a hinge on the top of the machine, for the purpose of guiding the ears of corn to the action of a shelling disk wheel.

Claim.—The loosely-hung conductor, with its projection, arranged substantially as set forth, for insuring the proper presentation of the ear without clogging or obstructing the operation of the driving wheels.

Also, combining with the teeth of the disk wheel, for feeding out the cob, the stationary guard teeth, operating in the manner and for the purpose set forth.

Also, the corrugated spring for keeping the cob up to the disk, without bearing upon its whole length, substantially as described.

Also, the weighted lever or arm *g*, in combination with the spout or conductor *c* and its projection *d*.

No. 49,304.—WM. ROSSITER, Newark, N. J.—*Cartridge Box.*—August 8, 1865.—This invention consists of a single piece of leather attached by its corners to the back of the cartridge box, and employed to confine both the belt and shoulder straps.

Claim.—The broad flat loop *d*, consisting of a single piece of leather or other material, attached by its corners to the back of the cartridge box *a*, and employed to confine both the belt *f* and shoulder straps *g g*, which are passed between the said flat loop and the back of the box, all as herein specified.

No. 49,305.—ROBERT B. RUGGLES, Hartford, Conn.—*Shirt Stud.*—August 8, 1865.—This invention consists of a button having an unequally-perforated and slitted stud, combined with a button having an unequal-sized shank, so that when the shank is inserted in the perforated stud and turned the two will be held together.

Claim.—The button *a*, having an unequally-perforated and slitted stud *b*, in combination with the button *a'*, having an unequal-sized shank *c*, working together substantially as and for the purpose described.

No. 49,306.—E. P. RUSSELL, Manlius N. Y.—*Method of Making Wrist Pins.*—August 8, 1865.—This invention consists of an anti-friction wrist pin, constructed with a chilled metal surface or journal, surrounding a core of softer metal which projects from one end of the journal, the two metals being united by casting the former around the latter.

Claim.—An anti-friction crank or wrist pin, substantially as described, when constructed with a chilled metal surface or journal surrounding a core of softer metal which projects from one end of said journal, the two metals being united mechanically in the casting of the former around the latter, substantially as and for the purposes set forth.

No. 49,307.—LOUIS SAARBACH, Philadelphia, Penn.—*Pocket-book.*—August 8, 1865.—Attached to a pocket-book or portmonnaie is a plate of metal arranged so as to slide over the side and secure the flap to the same.

Claim.—The plate B, attached to a pocket-book or portmonnaie so as to slide over the side of the same and secure the flap *b*, substantially as described.

No. 49,308.—ALBERT G. SAFFORD, Boston, Mass.—*Sliding Doors of Railway Cars.*—August 8, 1865.—This invention consists in the employment of relieving friction springs upon the upper part of a sliding railroad car door, to facilitate its opening and closing.

Claim.—The improved rail, as made with the notches *a b c*, for reception of the wheels of the door, and to hold the door either open or closed.

Also, the application of each of the wheels to the door in such a manner that while the door may be raised in its frame, and with respect to the rail, the wheels may rest in contact with the top surface of the rail.

Also, the combination and arrangment of the relieving friction spring or springs *k* with the door, and to operate therewith and with the door case, substantially in the manner described.

No. 49,309.—CYRUS W. SALADEE, Putnam, Ohio.—*Buckle.*—August 8, 1865.—This invention consists in constructing buckles for harness, &c., with a thin metallic plate, provided with rivets for securing the buckle to the harness or strap; also, in a metallic loop for confining the end of the strap, and in fastening the buckle plate either upon the upper side of the strap or within a loop of the strap.

Claim.—First, fastening buckles to harness, &c., by means of rivets *a* and plate A, the plate A being the back bar of the buckle flattened out, and provided with a metallic loop B.

Second, the combination of the metallic loop B, plate A, and rivets *a*, for the purpose of securing loops to harness, &c.

No. 49,310.—FRANK SEIBERLICK, Charlestown, Mass.—*Apparatus for Liquorizing Sugar in Centrifugal Machines.*—August 8, 1865.—This invention consists of a perforated tube, sliding in a conduit, which is arranged directly over the open end of the drum of a centrifugal machine. The tube is provided with a lifter and a sliding tube to cover the perforations.

Claim.—The combination of the jet tubes A, the gate C, and the conduit B, applied together substantially as and for the purpose specified.

Also, the combination of the lifter D, the jet tube A, the gate C, and the conduit B, the whole being arranged so as to operate together substantially in the manner as described.

No. 49,311.—A. SELOVER, Brooklyn, Ohio.—*Hedge Trimmer.*—August 8, 1865.—This invention consists of two pieces of wood, connected together by means of screw rods, having on one of their ends crank handles, through the medium of which they are adjusted nearer or further apart and placed on each side of the hedge to be trimmed, the hedge being cut off by means of a saw.

Claim.—The adjustable clamps A B, adjusting screws H, in combination with the adjustable standards C D, substantially as and for the purpose set forth.

No. 49,312.—FRANKLIN SKINNER, New Haven, Conn.—*Tightening Pulleys by Friction.*—August 8, 1865.—This invention consists in securing on a shaft or arbor one or two adjustable collars, each having two or more hollow arms at right angles to its axis. In each of the arms is inserted a movable rod or plug, the inner end of which is curved and bevelled to suit the convex surface of a conical slide. On the outer end of each of the said rods is placed a friction brake with a convex surface suited to impinge against the internal surface of the web of the pulley. The invention, also, in using on the cylindrical shaft a hollow conical slide of such shape that, when the clutch lever forces it into the adjustable collar, the enlarged part forces the friction brake outward, so as to impinge upon the internal surface of the web of the pulley, and bind it so tightly that the shaft must revolve with the pulley.

Claim.—The combination of the adjustable collar and its appendages, figure 3, with the conical slide, figure 5, and pulleys C C′, when they are constructed substantially as herein described, and are fitted for use, either double or single, on a proper arbor or shaft, as herein set forth.

No. 49,313.—SAMUEL STAMBRO, Northville, Mich.—*Fence.*—August 8, 1865.—This invention consists in driving a stake into the ground over the ends of the sills, and bending the stake so as to continually press upon the sill, while the stake remains elastic, the ends of the stake being secured by a wire or cord passing under a board of the fence.

Claim.—The stakes H H, driven in the earth, bent over the sill E, and secured at their outer or upper ends to the lower part of the fence, substantially in the manner as and for the purpose herein set forth.

No. 49,314.—JESSE H. STARR, Middlebush, N. Y.—*Bee Separator.*—August 8, 1865.—The object of this invention is to provide means whereby the bees may be separated from the honey in the spare or honey boxes. The honey boxes are placed in the upper compartment, which is dark, and the bees make their way towards the light, through metallic tubes, to the lower portion of the box, from which they have free exit to the open air.

Claim.—The bee separator, consisting of a box divided into two compartments, which are made to communicate with each other by means of taper pipes, the lower compartment being provided with holes or apertures to admit of the exit of the bees, and all arranged substantially as and for the purpose specified.

No. 49,315.—JOHN STOCK, New York, N. Y.—*Photographic Camera.*—August 8, 1865.—The nature of this invention is explained by the claim.

Claim.—The arrangement of the front of the camera box B so that the same turns upon a horizontal axis passing through the centre of the aperture, and also upon a vertical axis passing through the same centre, the bellows yielding to the motion without affecting their operation.

Also, the tubular flange or ring S to which the lens tube is affixed, in combination with the tubular ring T acting as a universal joint, in the manner and for the purpose substantially as set forth.

No. 49,316.—EDWARD E. STONE, United States Navy.—*Elastic Mousing for Hooks.*—August 8, 1865.—This invention consists in the use of an elastic and non-corrosive material for mousing snap hooks, sister hooks, or other hooks which require to be securely closed to retain any object within them.

Claim.—A mousing of India-rubber, or analogous non-corrosive material, to be applied to hooks, substantially as described.

No. 49,317.—WILEY J. STRATTON, St. Louis, Mo., and H. G. TIDEMAN, New York, N. Y.—*Machine for Cutting Tobacco.*—August 8, 1865.—This invention consists of a rotating cutting wheel moving at right angles to the feed, by which the tobacco is cut in uniform lengths. The feeding devices consist of a shaft, cam, pawl, and ratchet, together with a feed screw and follower, the latter being depressed by a single screw shaft passing through a bridge nut under the rotation of the cutting wheel.

Claim.—The combination and arrangement of parts substantially as described, and consisting of the rotating cutting wheel, moving at right angles to the feed, the feeding arrangement consisting of the shaft, cam, pawl, ratchet, feed screw, and follower, the latter depressed by a single screw shaft C passing through the bridge nut *a* under the rotation of the wheel D′.

No. 49,318.—PETER TALTAVULL, Washington, D. C.—*Blowing off Steam.*—August 8, 1865.—The object of this invention is to blow off the superabundant steam from the steam generator without noise, during landing and receiving passengers, or in the various services of war and merchant steamers when silence is desirable and important. Its novelty consists in a steam pipe leading from the boiler; the water-induction and discharge pipes combined and arranged so as to receive and discharge a powerful current of water through the side of the vessel, with adjustable pieces and the pipes adapted so as to control the area through which the fluid of the steam pipe is discharged into the water-discharging pipe.

Claim.—First, the steam pipe C leading from the boiler, water-inducting pipe A, and the water-discharging pipe B, combined and arranged so as to receive and discharge a powerful current of water through the side M of the vessel, substantially in the manner and for the purpose herein set forth.

Second, the combination of the concentrically arranged and adjustable pieces E F G and H, operating in the manner substantially as described and for the purpose set forth.

Third, the combination of the pipes A B and C with the adjustable pieces E F G and H, adapted to control the discharge of fluid, substantially as and for the purpose herein set forth.

No. 49,319.—M. SPENCER THOMAS, Painted Post, N. Y.—*Bark Mill.*—August 8, 1865.—This invention consists of a circular hopper provided with a circular rim having a rough surface below, and with arms having a rough surface below and teeth above, in combination with a revolving rough surface disk and breaker, by which the bark is effectually ground.

Claim.—The stationary hopper A provided with a circular rim *b*, having a rough surface below, and with arms *c*, having a rough surface below and teeth *e* above, in combination with the revolving rough surface disk E and breaker D, all constructed and operating as and for the purpose set forth.

No. 49,320.—JOHN S. THOMPSON, Glen Falls, N. Y.—*Stave Machine.*—August 8, 1865.—This invention consists in the employment of a series of devices designated in the claim, and operating to cut, bend, and finish the stave for use in making barrels.

Claim.—The combination of the endless chains G G, guides H H, circular saws T, cutter heads U, cutters V W, plates X, and yielding plates Y, all constructed, arranged, and operating as and for the purposes described.

No. 49,321.—ADDISON R. TITUS, Warren, Penn.—*Milk Stand.*—August 8, 1865.—This invention consists of a frame in which is a vertical revolving shaft, to which is attached arms, and upon these are circular shelves for holding milk pans, &c.; at the lower end of the shaft is attached a cone-shaped piece of metal to prevent rats or mice from climbing up to the shelves.

Claim.—The construction and arrangement of the frame A B C, revolving shaft D, brackets G, flanges H, and cone K, substantially as described and for the purposes set forth.

No. 49,322.—GEORGE VINING, Boston, Mass.—*Desulphurizing and Disintegrating Ores.*—August 8, 1865.—This invention consists of a furnace, within which is a drum, which is made to revolve slowly. The drum contains a number of balls, and communicates with an air pump by means of a perforated tube. The ore passes from the hopper to the drum, and escapes through an opening. The waste gases pass through a tube into a series of chambers, which are partly filled with water. From these chambers the gases escape into a partition chamber, the last partition of which terminates in a vessel containing mercury, and after passing through said chamber, escapes through the chimney.

Claim.—The revolving cylinder A, in combination with balls G G′ G″, &c., or their equivalents, tubes E and D, cock M, and seals H H′ H″, &c., constructed in the manner and for the purpose described.

No. 49,323.—W. J. WEAVER and J. M. SANDIFER, Somerset, Ky.—*Clock Escapements.*—August 8, 1865.—This invention consists of a frame which is attached to the pendulum of a clock, and is provided on each side with adjustable detents, which lock the teeth of an escape wheel so situated as to be embraced by the frame. The position of the pendulum is adjusted by a plate to which it is attached, which slides on the framework of the clock.

Claim.—First, the exterior figure, composed of the parts A A *d d*, with the adjustable pallets *b b*, secured by the set screws *c c*, as set forth, forming a part of the pendulum.

Second, the combination of the said parts with the escapement wheel B, in the manner and for the purpose described.

Third, the adjustable pallets *b b*, arranged and operating as described.

Fourth, the movable plate C, operated by the set screw *f* for the purpose of setting and keeping the pendulum exactly on beat, as set forth.

No. 49,324.—A. WEITMAN, West Union, Iowa.—*Horseshoe.*—August 8, 1865.—In this invention there are three flanges projecting from the sides of the shoe upward, and fitting against the side of the hoof, one of which, at the toe, is fixed firmly to the shoe. The upper ends of these flanges are bent inward at right angles to their sides, and project into recesses made in the hoof. The two flanges at the sides of the hoof and near the heel are secured to the shoe by screws, and their lower ends are turned under the shoe, and have inclined planes working against corresponding inclines on the bottom of the shoe, so that when screwed up they draw the shoe tight to the foot.

Claim.—The securing of the shoe to the hoof by means of one or more detachable or removable flanges D provided with lips *d*, and constructed and applied in such a manner as to draw the shoe towards the hoof and cause it to fit snugly thereto under the action of the screw *e* and inclined surface of the parts *c* and *b*, in combination with one or more fixed or permanent flanges B provided with lips *a*, substantially as described.

Also, the projections 2 2, in connection with the detachable and permanent flanges, substantially as and for the purpose specified.

No. 49,325.—H. H. WELCH, Athens, Ohio.—*Fire Heater.*—August 8, 1865.—This invention consists of a chamber made of cast iron or other suitable material, with alternate projections and recesses placed within the fireplace. A pipe at the bottom communicates external air to it, and from the top a pipe leads off the heated air as desired.

Claim.—The fireplace heater A, constructed as herein shown and described, that is to say, with the projections D E, recesses F, and pipes B C, for the purpose explained.

No. 49,326.—SAMUEL WELLS, New York, N. Y.—*Explosive Shell for Ordnance.*—August 8, 1865; antedated June 28, 1865.—The screw-threaded opening for receiving the fuze is situated in the tapering or forward conoidal portion of the shell, and is provided with a projection or hood in front of the said opening for the purpose of protecting the exposed end of the fuze as the shell is entering any obstacle.

Claim.—The fuze hole, formed in the tapering portion of the shell, in combination with the projection K on the latter.

No. 49,327.—JOHN WERNER, jr., Prairie du Lac, Wis.—*Tool for Scaling Boiler Tubes.*—August 8, 1865; antedated July 26, 1865.—The object of this invention is the cutting and removing incrustation in tubes of steam boilers by means of an auger. Its novelty consists of a cutting tool, screw nut, guide plate, and plug.

Claim.—The combination of the cutting tool *c c*, screw A, nut B, guide plate C, and plug D, all arranged to operate substantially as and for the purpose herein set forth.

Also, the slotting of the plate C and the connecting of the nut B, so that it may slide or be adjusted laterally, and having the plate C provided with a plug D, substantially as and for the purpose specified.

No. 49,328.—W. P. WHEELER, Louisville, Ky.—*Evaporating and Distilling Apparatus.*—August 8, 1865.—This invention consists of a still communicating by means of a pipe with a coil in the condenser. The coil is connected with a pipe which descends a distance of thirty feet, more or less, so that the column of liquid accumulating in the same up to a certain height, determined by its specific gravity, will produce a more or less perfect vacuum in the coil. A cock is attached to the pipe for the escape of air and impurities in the beginning of the operation.

Claim.—The vacuum pipe C, or equivalent, with its lower end upturned, or otherwise sealed from the entrance of the atmosphere, applied in combination with the condenser B and evaporator or still A, substantially as and for the purpose set forth.

No. 49,329.—A. J. WHITE, New York, N. Y.—*Method of Removing Incrustation from Gas Retorts.*—August 8, 1865.—This invention consists in forcing a current of air through the retort, so as to burn out the incrustation. The apparatus is composed of a bank of retorts, a rotary fan case, and a tube leading from said fan case to the retorts to be cleaned.

Claim.—The removing of the incrustation from the interior of gas retorts by forcing a current of air through them by means of a pump, fan, or other equivalent device, substantially as shown and described.

No. 49,330.—E. P. WILLIAMS, Buffalo, N. Y.—*Grain Shovel.*—August 8, 1865; antedated August 4, 1865.—This invention consists in the construction of a skeleton, runner-like frame, in which is hung one or more pendent flaps or shovel blades, forming a grain shovel, to be operated by any convenient application of power, so that in a forward movement of the shovel said flaps will move the grain forward, and in a backward movement of the shovel said flaps will easily slide over the grain without moving it back.

Claim.—A grain shovel having a skeleton runner frame A, and pendent flaps or shovel blades F, with an elastic compressible top or covering E, for the purposes and substantially as described.

No. 49,331.—J. D. WILLIAMS, Allegheny City, Penn.—*Manufacture of Iron.*—August 8, 1865; antedated July 9, 1865.—This invention consists in heating a charge of 480 lbs. of iron in a puddling furnace, in the ordinary manner, until it is melted. A composition is then made by taking one pound of sulphuric acid and diluting it with warm water, and eight ounces of common salt, three ounces of borax, two ounces of saltpetre, and six ounces of slacked lime, and dissolving each separately in one pint of warm water. All of these are then mixed and added to three gallons of warm water, and the mixture is poured in on the melted iron. The manipulation is now carried on in the ordinary manner, without lowering the damper or removing the slag or cinder until the iron is withdrawn.

Claim.—The use of the ingredients herein named when used in the manufacture of iron, said ingredients being used substantially in the manner herein described and for the purpose set forth.

No. 49,332.—C. A. WILSON, Cincinnati, Ohio.—*Steam-warming Apparatus.*—August 8, 1865.—This invention consists of a separate return pipe provided with a closable discharge passage, and an automatic valve-guarded return passage opening into the boiler, and through which the water from the condensed steam finds its way by its own weight.

Claim.—The separate return pipe E provided with the closable discharge passage F *f*, and with the automatic valve-guarded return passage G *g*, which empties into the boiler, the whole being combined and operating substantially as set forth.

No. 49,333.—GURDON G. WOLFE, Troy, N. Y.—*Cool Stove.*—August 8, 1865.—This invention consists in the employment of a vertical, self-feeding, or fuel-supply reservoir, with a surrounding air chamber, which receives cold atmospheric air at or near the lower end thereof, so as to preserve the said lower end, as well as other parts of such reservoir, from any undue action from heat from the fire or fire pot below, and at the same time heat such air so entering therein, for the purpose of warming the room by means of the escape of hot air through openings at the top of such reservoir-surrounding chamber, or by the closing of such openings, to return the hot air through a damper into the fire chambers. Atmospheric air is admitted into the air chamber surrounding the fire pot, so that free circulation of such air around the fire pot takes place, whereby the fire pot is preserved from undue heat, while at the same time the air passes into the room, and thereby assists in warming the same, and also furnishes the gases and smoke with air to aid in their combustion.

Claim.—First, the employment of the said self-feeding reservoir or chamber E, surrounded by the air-heating chamber D, with cold-air supply tube C, arranged and combined with a base-burning coal stove, in the manner substantially as and for the purpose herein described and set forth.

Second, the employment of a fire pot or combustion chamber, constructed with an annular hot-air chamber, with openings B B, arranged in the manner substantially as herein described and set forth.

Third, the combination of the damper H with the openings or dampers O O, in the coal-supply reservoir or chamber, and said air-heating annular chamber D, in the manner substantially as and for the purpose herein described and set forth.

No. 49,334.—WILLIAM WRIGHT, New York, N. Y.—*Portable Steam Engine.*—August 8, 1865.—This invention consists of a solid cast-iron frame, which is secured to the boiler, and to which the cylinder is fastened by bolts through one of its heads, it being then suspended and free from any connection with the boilers to the opposite end of the frame, and the weight of the boiler is transferred to the frame of the engine.

Claim.—The arrangement of portable steam engines with reference to the manner herein described of attaching the engine proper to the boiler.

No. 49,335.—C. M. BERRY and CHARLES C. SHELDRAKE, assignors to themselves and J. BREADY, Philadelphia, Penn.—*Sirup Stand for Soda Fountains.*—August 8, 1865.—This invention consists of a stand made of cast iron, and enamelled on the inside and outside to prevent corrosion.

Claim.—Constructing mineral-water sirup stands of cast iron, and enamelling the interior and exterior surfaces of the same to protect them from the action of the acid contained in the sirups.

No. 49,336.—WESSEL BRODHEAD, assignor to C. L. EDMONDS, Rondout, N. Y.—*Boring Tool.*—August 8, 1865.—This invention consists in an upright central standard, with a fine cut feeding screw on the lower end. Through the standard passes an arm, upon which is adjusted the cutter tool, which can be adjusted on the arm to describe the diameter required for the hole, and by turning the centre standard is fed to the wood-cutting tool on the circle in its sweep or revolution.

Claim.—The boring tool herein described, consisting of a fine feeding screw B, and arm C sliding in the head of the said feeding screw, and having permanently attached to it the shank *d* of a cutter D, formed with a chisel point *e*, a curved neck for the ejection of chips, and two fleam-shaped blades *f f*, all the parts being constructed and arranged to operate as and for the purposes specified.

No. 49,337.—NELSON H. BUNDY, assignor to NAHUM N. DOW, Boston, Mass.—*Connecting Gauges, Calipers, and Rules.*—August 8, 1865.—This invention consists in a method of connecting, by means of rule joints, the following instruments in such compact form as to occupy the space of three inches in length, one inch in breadth, and one-quarter inch in thickness, outside and inside calipers, wire gauge, and foot rule, viz: calipers, wire gauge, and foot rule.

Claim.—The mode of connecting the several instruments, viz: the calipers, wire gauge, and foot rule, as hereinabove set forth.

No. 49,338.—JOSEPH H. DESALUSSE, assignor to ALFRED B. JUSTICE, Philadelphia, Penn.—*Fastening Keys in Locks.*—August 8, 1865.—In this device the escutcheon plate, which is to be screwed to the door, has a round hole through it, in which is fitted a circular disk, free to revolve, containing the key-hole. Two stubs, one on each side of the key-hole, project from this revolving disk, and a key-hole cover, hinged in the usual manner, but of a peculiar shape, embraces a squared portion of the shank of the key, and interlocks with one or the other of the two stubs, and thus holds the revolving disk in such position that its key-hole does not coincide with the key-hole in the lock case. By these means the key is protected against being pushed out of the lock, as well as from being turned.

Claim.—The use of a revolving escutcheon, in combination with a pawl, as set forth.

No. 49,339.—A. M. DORMAN, assignor to himself and SAMUEL YEWDALL, Philadelphia, Penn.—*Military Insignia Woven in Cloth.*—August 8, 1865.—This invention is explained by the claim and engraving.

Claim.—Military insignia woven in the cloth, and excised therefrom preparatory to attachment to the apparel, all substantially as herein shown and described.

No. 49,340.—EDWARD FAIRBANKS, assignor to himself and LEVI BOWEN, Baltimore, Md.—*Oyster Dredge.*—August 8, 1865.—This invention consists of a vertical revolving windlass, with a crane, arms, and a reel, all arranged and operated for the purpose of dredging oysters.

Claim.—The combination and arrangement of a reel, with a revolving standard and crane arm, when so arranged as to compose a winder for oyster dredges, substantially in the manner and for the purpose described.

No. 49,341.—JUNIUS FOSTER, assignor to himself and JOHN SLOCUM, Long Branch, N. J.—*Spoke Machine.*—August 8, 1865.—The object of this invention is to taper the edge of tenons of spokes to fit the bevel heading of the mortise in the hub, and it consists in

using a reciprocating chisel cutter, moving in a right line, and an adjustable gauge, by which the spoke is held, and the tenon cut to the exact taper.

Claim.—The arrangement of the cutter G, attached to the reciprocating block C, the adjustable gauge bar H, and slotted plates I I′ J J′, all constructed as and for the purposes herein specified.

No. 49,342.—GEORGE W. FULLER, Chelsea, Mass., assignor to himself and PETER E. FALCON, Cohassett, Mass.—*Device for Raising Sunken Vessels.*—August 8, 1865.—This invention consists in forcing air through an aperture made in the bottom of a sunken vessel to overcome the adhesion of the mud or soft bottom in which the vessel may be imbedded The aperture is made by a diver, as near the keel of the vessel as possible, and the air forced down through a tube by an air force pump.

Claim.—The mode substantially as above described of overcoming the adhesion of a submerged vessel to the mud or ground on which she may be deposited.

No. 49,343.—BENJAMIN F. GLADDING, Providence, R. I., assignor to ELLIOTT P. GLEASON, New York, N. Y.—*Plumber's Hook Blank.*—August 8, 1865.—This invention can only be fully understood by reference to the description and drawings.

Claim.—A new article of manufacture, the plumber's hook blank, with a disposition of its material, substantially as described.

No. 49,344.—JAMES GLASS, assignor to COX, CHURCH & COMPANY, Troy, N. Y.—*Stove Grate.*—August 8, 1865.—This invention consists of removable slide pieces at either end of the grate, made with four prongs, two of them resting on the shaft, and in corrugations in the bed plate, and two running under this plate, and sustained by legs, by means of which the grate is sustained in position so as to be easily vibrated.

Claim.—The removable end pieces D D, in combination with the grate B, shaft C, and bed plate A, operating as and for the purposes set forth.

No. 49,345.—HORACE L. HERVEY, assignor to himself and JOHN HART, Philadelphia, Penn.—*Churn.*—August 8, 1865.—In this machine there are two cylinders, which terminate in a receptacle for the cream. The lower end of both these cylinders is provided with wire-gauze covering, and each cylinder is provided with a piston, worked by the same beam, one piston rising while the other falls. The cream is alternately forced through the wire gauze at the lower end of the cylinders.

Claim.—The combination and arrangement of the two cylinders A and piston D E with the perforated plates F at the bottom of the cylinders, for the purpose of simultaneously forcing the cream up through one plate F by exhaustion, and down through the other plate F by pressure, substantially as described.

No. 49,346.—PIERRE HUGON, assignor to EMIL JUST, Paris, France.—*Gas Engine.*—August 8, 1865.—This invention consists in the method of igniting in gas engines the gaseous detonating compound by the employment and combination with one or more slide valves of one or more lighting or igniting burners, in such a manner that, as the valve moves to admit the compound to the cylinder, it shall be brought in contact with the burner, and thus explode. It further consists in combining within the cylinder a portion of water with the detonating compound, in order that steam may be generated for the purpose of lubricating the moving parts of the engine.

Claim.—First, the method herein described of igniting in gas engines the gaseous detonating compound, in the manner and for the purpose hereinbefore set forth, that is to say, by the employment, in combination with one or more slide valves constructed for operation, substantially as shown and described, of one or more lighting and inflammatory or igniting burners, whereby the use of electricity as the medium to unite the said compound may be dispensed with.

Second, in gas engines, that is to say, in engines in which the motive power is a gaseous compound, to be ignited within the cylinder, or in any vessel communicating therewith, the employment and combination with the said mixture, a gaseous compound of water, or other vaporizing liquid, substantially in the manner and for the purposes hereinbefore set forth.

Third, the arrangement, substantially as herein described, of the slide valves for the distribution of the detonating mixture, and of the ignition thereof at given intervals of time, in combination with lighting and igniting burners, as set forth.

Fourth, the arrangement and combination of parts for the injection of water around and into the cylinder, substantially as herein described and for the purpose set forth.

Fifth, the general arrangement and combination of gas engine, substantially as hereinbefore described and shown in the annexed drawings.

No. 49,347.—S. B. HUTCHINSON, Nashua, N.H., assignor to himself, G. W. RAY, and V. N. TAYLOR, Springfield, Mass.—*Paper Collar.*—August 8, 1865.—This invention consists in omitting the enamelling on the inside of the band.

Claim.—A paper collar, part of the surface of which is enamelled, as herein described.

No. 49,348.—SYLVANUS D. LOCKE, assignor to G. O. CAMPBELL, Janesville, Wis.—*Car Coupling.*—August 8, 1865.—This invention consists in the application to the ordinary link and pin coupler on railroad cars of a metallic case, into which the link is inserted as the cars are coupled, that, when the cars are uncoupled, holds the link steadily in a horizontal position, and when the cars are coupled secures sufficient play to the link to allow it to adjust itself to the spring and swaying of the cars, while at the same time the rubber is protected by the metallic case from all wear and abrasion by the link. Also, in the application to the same of a swinging table operated by a spring in its rear, and (above the swing table) a drop dog or catch, the two being hinged together on a common bearing in such a manner that the dog holds the pin, after it is raised, until the link is withdrawn, when the spring, driving the table forward, withdraws the dog or catch and allows the pin to drop on the table, where it remains until the link again enters and drives back the table, when the spring drops within the link.

Claim.—First, a car coupler, when constructed and arranged substantially as and for the purpose set forth.

Second, the combination and arrangement of the dog *g* and swing table *d*, substantially as and for the purpose set forth.

Third, the combination and arrangement of the case *m* and spring *k*, substantially as and for the purpose set forth.

No. 49,349.—B. V. LYON, assignor to himself, GRANT JUDD, E. P. WHITNEY, and J. P. REED, Stamford, Conn.—*Welt Machine.*—August 8, 1865.—This invention consists of two pressure rollers placed one over the other and combined with a guide bar, to which guides are attached; the guides being constructed so as to fold the strips of leather. The lower roller has grooves in its periphery, and the upper has projections corresponding in width with the grooves.

Claim.—The combination of the guides G G′ with the two pressure rollers B B′, all arranged to operate in the manner and for the purpose herein described.

No. 49,350.—CLARK MARSH, Bridgeport, Conn., assignor to HOTCHKISS SONS, New York, N. Y.—*Snap Hook.*—August 8, 1865.—This invention consists of a spring combined with a bearing at some distance from the root of the spring, adapted to brace the latter stiffly against the strain thereon in one direction; and further, the passing of said spring through the body of the hook, so that a portion serves in the front, and another at the back.

Claim.—First, in snap hooks, the employment of the spring E, in combination with a bearing *d*, at some distance from the clip or root of the spring, adapted to brace the spring stiffly against the strain thereon in one direction, while allowing the elasticity of the entire spring to be made available in the proper yielding action, substantially as herein set forth.

Second, in snap hooks the passing the spring E through the body, so that a portion shall serve in the front and another portion serve at the back, and contribute its elasticity to operate the portion in the front, substantially as and for the purpose herein set forth.

No. 49,351.—FREDERICK C. MEYER, assignor to ERNESTINE MEYER, Philadelphia, Penn.—*Ice Pitcher.*—August 8, 1865.—This invention consists of a valve adapted to the spout, and operated by a weight, so that when the pitcher is tilted there may be an unobstructed discharge of the water, and when the pitcher is placed in its upright position the spout may be effectually closed.

Claim.—The valve C adapted to the spout, and operated by the weight D, through the lever F, or its equivalent, all substantially as and for the purpose herein set forth.

No. 49,352.—ROBERT POOLE, assignor to himself and GERMAN H. HUNT, Baltimore, Md.—*Oil Cup.*—August 8, 1865.—The cover of this lubricator is attached to the cup by means of a male screw ring, screwing down into the cup. A small section of the cover is rigidly attached to the upper part of this ring, and the larger part is hinged to the same.

Claim.—An oil cup in which the lid or cover is united to the bowl by a hinge, section, and screw ring, substantially in the manner and for the purpose herein described.

No. 49,353.—ENOCH WAITE, assignor to ELLIOTT FELTING MILLS, Franklin City, Mass.—*Felted Fabric.*—August 8, 1865.—This invention is designed for covering steam boilers: the cloth, whether woven or knitted, is united by a felting process to a stratum or strata of felt, and a thick layer or layers of hair is afterwards applied to the felt.

Claim.—The compound fabric made of felt cloth and hair, combined or arranged substantially in the manner as described.

No. 49,354.—ALBION WEBB, assignor to himself and D. M. DUNHAM, Bangor, Me.—*Horse Hoe Cultivator.*—August 8, 1865.—This invention consists in securing the cultivator blades to the frame by bent standards of metal that move at their inner ends in slots, and are fastened by eye bolts fitting in notches upon the under side of the frame. Additional blades or wings

are fastened to the main plates by a single bolt, in connection with radial ribs and corresponding grooves.

Claim.—First, the manner in which the plates E E are secured to the cross-bars B B of the machine, to wit, the oblong grooves *a* in said bars B B, with notches *e* at their under surfaces, the covered rods F, and eye bolts G, all arranged in the manner substantially as and for the purposes specified.

Second, The securing of the blades H to the plates E, by means of a single bolt *a*, in connection with the ribs *b*, and grooves *c*, substantially as shown and described.

No. 49,355.—GEORGE WOODS, Cambridge, Mass., assignor to MASON & HAMLIN, Boston, Mass.—*Cabinet Organ.*—August 8, 1865.—Within the aperture of the safety-valve of a cabinet organ or other wind instrument, is arranged a perforated or porous diaphragm of fibrous or other material, for the purpose of excluding dust.

Claim.—The application to or within the aperture of the safety-valve of cabinet organs or other wind instruments, or other apertures for the passage of air, of a perforated or porous diaphragm, whether of fibrous or other material, substantially as and for the purpose above described.

No. 49,356.—WILLIAM ZERNS, assignor to himself, J. R. DEIGHM, and JASPER SNELL, Pottsville, Penn.—*Crimping Wire Cloth.*—August 8, 1865.—This invention consists of a pair of dies, having in their contiguous surfaces a series of projections or teeth, so arranged that when the woven cloth or screen is put between them, the teeth of the upper die will bear upon the wire on each side of its point of contact with the cross-wire beneath, and bend it downward half its diameter, while corresponding teeth in the other die bend the lower portion of the wire upwards, in the same manner and degree.

Claim.—The crimping of wire cloth, by placing the same, after being woven, between toothed plates and subjecting it to pressure, substantially as set forth.

No. 49,357.—WM. SIM and ARTHUR BARFF, Glasgow, North Britain.—*Apparatus for Burning Hydro-carbons.*—August 8, 1865.—This invention consists of a retort placed in the fire-chamber of a locomotive, or other boiler. The retort is connected to a pipe by means of another short pipe which passes down into the space between the two water spaces. The hydro-carbon is converted into gas in the retort, which escapes through the perforations, where it is ignited. The products of combustion from the fire-chamber pass through the channels into the space, and from thence, through the tubes to the smoke stack.

Claim.—The general arrangement and construction of apparatus for the utilization of the gases produced by the vaporization of mineral hydro-carbon oils, for the generation of steam and the production of heat generally, as hereinbefore described, or any mere modification thereof.

No. 49,358.—THOMAS ARNOLD, New York, N. Y.—*Manufacture of Gas for Heating and Illuminating Buildings, and for other purposes.*—August 15, 1865.—This invention consists of a retort containing coal, and having a compartment in the upper part for containing petroleum; below the retort is a steam-chamber communicating with the retort through apertures. The steam is admitted to the chamber by means of a pipe, and in its passage through said chamber becomes highly heated. It then passes through the retort and is decomposed, the resulting gases mixing with the hydro-carbon vapor in the chamber containing petroleum; the mixture of gas and vapor then passes down a tube to the burner.

Claim.—A gas-generating apparatus, in which superheated steam is passed through incandescent carbon, and thence through a chamber immediately over the carbon, into which petroleum or other hydro-carbon is admitted, and the gaseous products conveyed away and burned below such apparatus, as specified.

Also, the arrangement of the steam passages *g*, carbon chamber *a*, chamber *c*, and pipes *e f*, for the purposes and as specified.

No. 49,359.—J. E. ATWOOD, Lynn, Mass.—*Washing Roller.*—August 15, 1865.—This invention consists of a rubbing or pressure roller in a suitable frame or handle to be grasped by the operator. and a ring of leather to encircle the arm.

Claim.—The hand washing roller, constructed substantially as described, with a handle, roller, armlet, and frame.

No. 49,360.—J. E. ATWOOD, Lynn, Mass.—*Washing Machine.*—August 15, 1865.—In this machine the frames are constructed directly together at one end, and connected at the opposite end by braces and springs, in combination with a cylinder and roller.

Claim.—The frames A C, constructed directly together at one end, and connected at the opposite end by braces *e* and springs *f*, in combination with the cylinder or drum B, and roller D, substantially as herein specified.

No. 49,361.—J. E. ATWOOD, Lynn, Mass.—*Wringing Machine.*—August 15, 1865.—This invention consists in the combination of two rollers, one of wood and the other covered with some elastic material; one of the said rollers has a concave face, and the other a convex face, so as to correspond nearly in their curves.

Claim.—The combination of the concave wooden roller and the convex rubber-covered roller, substantially as used for the purpose described.

No. 49,362.—H. R. and M. T. BARNES, Watkins, N. Y.—*Sinking Deep Well Tubes.*—August 15, 1865.—In this invention a pointed end piece first enters the ground; the cylinder standing upon this, follows, being held in concentric position by an interior rod, the lower end of which is of smaller diameter; and made tapering to fit into a corresponding hole in the end piece. The driving blows are given to the top of the interior rod, which ascends above the top of the tube, both being securely held together at the top of the tube; the rod is extended by screw connections, the tube by exterior couplings of a diameter not larger than the pointed end piece below; when the desired depth has been attained the rod and tube are so released from their bond, that while the tube retains its position a blow upon the rod will drive the end piece down further, and thus leave a space between it and the bottom of the tube; the interior rod is then withdrawn.

Claim.—First, the employment of an interior rod or tube B, in combination with a water pipe A, in driving into the earth, substantially as and for the purpose herein set forth.

Second, in combination with the rod or tube B, and pipe A, the adjustable shoulder C, substantially as specified.

Third, in combination with the rod or tube B, and pipe A, the detachable point D, so arranged, that when the pipe is driven in place, the point may be forced still lower to make a depression in the earth, substantially as described.

No. 49,363.—THOMPSON C. BARTLE, Independence, Iowa.—*Sugar Evaporator.*—August 15, 1865.—This invention consists of a furnace provided with a boiler, over which is placed a finishing pan; the pan in which the sirup is first evaporated is situated above the finishing pan, and is heated by means of a pipe conducting steam to the same.

Claim.—The combination of the steam coil F with one or more pans D, in connection with the boiler C, substantially as set forth.

No. 49,364.—PETER BAUER, Newark, N. J.—*Spring Punch.*—August 15, 1865.—This invention consists in a revolving anvil, provided with one or more faces for the punches in the head, and with sockets corresponding to the heading tools in the said head.

Claim.—The revolving anvil E, provided with one or more faces for the punches in the head C, and with socket corresponding to the heading tools in said head, substantially as and for the purpose described.

No. 49,365.—JOHN BEALL and SAMUEL K. SCHAFFER, Decatur, Ill.—*Flour Bolt.*—August 15, 1865.—This invention consists in the application of a series of pivoted arms, upon which are weights at the ends, one of which is heavier than the other, so that as the bolt revolves the weights tilt the arms and strike two blows to one revolution.

Claim.—The application to a bolt reel of a series of pivoted arms, provided at their ends with weights *c c'*, the ball or weight *c* at one end of the arms being heavier than the balls or weight *c'* at the opposite end, and all arranged to operate in the manner substantially as and for the purpose set forth.

No. 49,366.—HENRY BELFIELD, Philadelphia, Penn.—*Water Gauge for Steam Generators.*—August 15, 1865.—The object of this invention is to indicate the height of water in a steam generator with unerring certainty. Its novelty consists in the combination and arrangement of the cap, glass tube, spiral spring, nut, elastic packing, and tubular projection.

Claim.—The combination and arrangement of the cap G, glass tube F, spiral spring J, nut I, elastic packing *e*, and tubular projection H, as herein set forth.

No. 49,367.—JOHN H. BLOODGOOD, New York, N. Y., and MOSES A. JOHNSON, Lowell, Mass.—*Manufacture of Felted Yarns.*—August 15, 1865.—This invention consists of a felted thread or yarn, composed of felting and non-felting materials.

Claim.—A felted thread or yarn, composed of felting and non-felting materials, the same being a new article of manufacture.

No. 49,368.—WILLIAM and GEORGE BRAID, New York. N. Y.—*Machine for Making Pipe Core.*—August 15, 1865.—This invention consists of a frame, supporting a sand hopper with a hinged vibrating bottom, over a revolving roller, on which the sand falls, and by which it is carried and pressed against the core spindle, which is geared into and revolves with the said roller. On the opposite side, in front of the core spindle, is placed a templet or scraper, with a face of the same outline as that to be given to a longitudinal section of the core. This templet is adjusted against the core which is being formed by means of set screws in the rear, and by which means the diameter of the core is regulated.

Claim.—First, the combination of a rotating centre-piece G, rotating pressing roller B, and templet or scraper J, the whole arranged and operating substantially as and for the purpose herein specified.

Second, the hopper or feeding box B, with its vibrating bottom, in combination with the compressing roller B and centre-piece G, substantially as and for the purpose herein described.

Third, the arrangement of the centre-piece G in bearings in the two connected levers or rockers I I, and in combination with a movable clutch K and driving gear L, substantially as and for the purpose herein specified.

No. 49,369.—JOHN BRAUN, Philadelphia, Penn.—*Loom.*—August 15, 1865.—The object of this invention is to give, by means of a curvature in the oblong slot in the working beam, a period of rest, so that the eveners may remain stationary for a short time at the extreme ends of their stroke, while the crank-shaft continues to revolve, and thus keep open the shed, that the shuttle may pass without obstruction, and also to balance the weight of the eveners, and govern their motions with but little power or wear.

Claim.—First, the oblong slot *d* in the end of the working beam C in combination with the eveners D D and levers *i k*, constructed and operating substantially as and for the purpose set forth.

Second, the manner described of supporting and of operating the eveners, by connecting them at or about their centres, the one with the working beam C, and the other with the working beam *p*, which receives its motion from the one connected to the main beam, substantially as described.

No. 49,370.—J. P. BUCKLAND, Holyoke, Mass.—*Sifting Shovel.*—August 15, 1865.—This invention consists of a shovel, the frame or skeleton of which is made of cast metal, and the bottom of wire netting, around which the metal is run.

Claim.—The use of the wire netting in the construction of sifting shovels, the frame or skeleton of which is composed of cast metal.

No. 49,371.—J. G. BUGBEE, Bangor, Me.—*Revolving Crutch Feet.*—August 15, 1865.—This invention consists of a foot, having a cushion on one side, and a point on the other, so suspended by a horizontal pivot within a socket in the lower end of the crutch, that either the cushion or the point may be presented to the ground, the foot being held in either position by the retraction of a spiral spring placed above it within the socket.

Claim.—A reversible crutch foot, arranged and operated substantially in the manner described and for the purposes specified.

No. 49,372.—J. D. BURDICK, Ashaway, R. I.—*Wringing Machine.*—August 15, 1865.—This invention relates to a means for obviating the difficulty attending the spreading apart of the rollers, and the consequent separation of the gearing by which the rollers are connected; and also to a method of securing the machine to the tub.

Claim.—First, in combination with the two rollers C C′, the supplemental shaft E, provided with pinions *d d*, which gear into pinions *c c* on the lower shaft *a*, and the elastic belt or straps H, all arranged to operate substantially as set forth.

Second, the combination of the double side pieces A, tenons J, and socketed clamps K L M, all constructed and arranged as specified.

No. 49,373.—BENAJAH J. BURNETT, Mount Vernon, N. Y.—*Ventilator for Houses.*—August 15, 1865.—In this invention a casing of quadrangular form is set in the walls of a house. It is divided into four triangular compartments or air ducts, by partitions radiating from the centre to the four corners; the said partitions extend beyond the ends of the casing, and the ducts are closed longitudinally, so that air is admitted at the sides. These openings are controlled by dampers, over the outer end of the ventilator; and on the wall is fixed a shield, curved so as to protect the top from rain, and at the same time admit air into the ducts. On the wall of the room, over the inner end of the ventilator, is a perforated box, which acts as an air distributor.

Claim.—First, the combination with a ventilator, constructed, arranged, and applied as described, of the regulating valve or valves, operating substantially as and for the purpose herein fully described.

Second, the air distributor F, in combination with the air ducts *a b c d* and deflectors *r r*, substantially as and for the purpose herein specified.

Third, the shield G, extended over the upper outer opening *o* and deflector *r*, and open at the sides, substantially as and for the purpose herein set forth.

No. 49,374.—BENAJAH J. BURNETT, Mount Vernon, N. Y.—*Ventilator for Ships, &c.*—August 15, 1865.—In the outer end of a casing fixed in the side of a ship is secured a frame, in which is fitted a pane of glass. To the frame are cast or secured, as desired, four deep diagonal wings, connected with a central boss, in which is a female screw thread to receive a male screw, on a longitudinal spindle in the box. The casing is divided into four triangular compartments by partitions radiating to the corners from a central hub, which latter extends to about the centre of the box, where it is met by the boss above spoken of. When the spindle is turned, the frame, with its wings, will be moved longitudinally, but in such a manner as to slide by and not interfere with the radiating partitions. When the ventilator is opened by the operation of the screw, the triangular passages form air ducts for ventilating the cabin. It can be closed water-tight by drawing the frame close to the casing.

Claim.—First, the combination of the stationary or fixed partitions with the longitudinally movable partitions or wings, arranged and operating substantially as and for the purpose herein described.

Second, the combination of the side light or shutter with the movable partitions or wings, substantially as described.

No. 49,375.—TOBIAS BURRIS, Fieldon, Ill.—*Beehive.*—August 15, 1865.—The object of this invention is to protect the bee from the incursions of the moth miller; and it consists in the combination of several parts, indicated in the claim, from which, and the engraving, it will be readily understood.

Claim.—The combination of the oil drawer or receptacle D, perforated bottom C, and passage tube E, with the hive B, substantially as and for the purpose herein set forth.

No. 49,376.—E. P. H. CAPRON, Springfield, Ohio.—*Brick Machine.*—August 15, 1865.—This invention consists of a solid rotating wheel, in which are formed the moulds wherein the bricks are compressed, and which operates in connection with an inclined annular track, beneath which are forced upward the compressing devices in regular succession, pressing the clay against doors or lids, which are prevented from opening under the pressure by means of a segmental bearing, located above the rotating wheel, and affording a surface to be traversed by rollers, which are journalled in the lids of the moulds. These lids or doors are opened and closed at the appropriate time by arms, which strike against projections on the main frame.

Claim.—First, the rotary mould wheel or table D in connection with a bearing M and inclined adjustable section L, and rising and falling plungers or followers F, for the purpose of moulding or pressing brick, as set forth.

Second, the particular arrangement of the annular way or track H, section I, and the bearing M, as shown, whereby the lids of the moulds are held down by the bearing M, while the pressure is given by the section I, as described.

Third, arranging the section I, as shown, or in any other equivalent way, so as to render the same capable of being adjusted to regulate the pressure on the clay in the moulds, as set forth.

Fourth, the friction rollers G at the lower ends of the plungers or followers F, and the friction rollers L in the lids or covers K, for the purpose specified.

Fifth, the hinged lids or covers K, provided with the arms *d d'*, in connection with the projections *e e'* attached to the framing, substantially as and for the purpose set forth.

Sixth, the lips *i i* at the lower ends of the plungers or followers, in connection with the plate *h*, or its equivalent, attached to the inclined plane *b*, for the purpose of lowering or drawing down the followers, as set forth.

Seventh, the lubricating device for the plungers or followers, the same consisting of grooves *g* made in the plungers or followers, and provided with strips of cloth, or other absorbent material, substantially as described.

No. 49,377.—BENJAMIN CHURCHILL, Wareham, Mass.—*Weighing Apparatus.*—August 15, 1865.—In this invention the scale beam is constructed with two arms, so arranged that the weight resting upon their upper edges may be moved along them over the axis of motion of said beam. The poise of the scale may be adjusted by placing shot in a bowl fixed to the lower side of the platform.

Claim.—The construction of its beam and movable weight, and the arrangement of knife edge bearings relatively to the beam, substantially in manner as explained, so as to enable the weight to be moved across the axis of motion of the beam, as and for the purpose specified.

Also, the arrangement of the shot-receiving chamber or vessel, with the platform, as described.

No. 49,378.—J. W. CHURCHILL, Pittston, Penn.—*Animal Trap.*—August 15, 1865.—The object of this invention is to obtain a trap that has the door always open to the animal on the outside, but closed to those on the inside. Its novelty consists in the opening and closing of the door by the platform, in combination with rod and lever connections.

Claim.—The combination of the counter-balanced platform bar I I, gate D and their rod and lever connections, operating in combination with the platform stop and the box A, as and for the purpose described.

No. 49,379.—DAVID CLARK, Hazelton, Penn.—*Piston Packing.*—August 15, 1865.—This invention consists in forming around the periphery of the piston a series of parallel grooves or channels, in combination with one or more expansible split metallic rings placed upon each end of the piston, and so arranged that the steam can enter between them and the piston whereby they are caused to be thrown out or expanded, as it were, sufficiently for the piston to fit its cylinder with the requisite tightness to insure its operation; these grooves also serve as so many channels or receptacles for the water from the condensed steam penetrating thereto when steam is first admitted to the cylinder, whereby the sides of the cylinder are always kept moistened and lubricated, thus preventing the piston from cutting it.

Claim.—The improvement in piston packing herein described, the same consisting in forming in and extending entirely around the periphery of the piston a series of one or more grooves or channels, in combination with one or more expansible metallic rings upon each end portion of the said periphery, arranged and operating substantially as and for the purposes specified.

No. 49,380.—J. M. CLARK, United States army.—*Water Wheel.*—August 15, 1865.—This invention consists in the employment of two wheels, placed on one and the same shaft, with a block between them, having water ways or passages made in it.

Claim.—The two wheels C C, provided with buckets *a*, as shown, and keyed on one and the same shaft B, in combination with the block A, provided with the water passages *b c c*, grooves *d d*, and escape passages *e*, all arranged to operate substantially as and for the purpose set forth.

No. 49,381.—JOHN R. COOK, Winsted, Conn.—*Curtain Fastening.*—August 15, 1865.—This invention consists of an elastic spring-steel band, which partly encloses the curtain roller, under which the end of the curtain is retained, a number of bands being used.

Claim.—A curtain fastener, the elastic or flexible band, substantially such as and for the purpose described.

No. 49,382.—DE WITT C. COOLEY, CHAS. F. SMITH, and C. E. BRADLEY, Aurora, Ill.—*Composition for Filling the Pores of Wood.*—August 15, 1865.—This invention consists of a composition of turpentine, boiled oil, calcined magnesia, japan, and starch. The composition is used to fill the pores of wood previous to varnishing.

Claim.—A compound for filling wood made of the ingredients herein described, and mixed together in about the proportions and substantially in the manner set forth.

No. 49,383.—CHAS. W. COOPER, Brooklyn, N. Y.—*Treating Glue Stock.*—August 15, 1865.—This invention consists in treating the stock, after all the glue is separated, with sulphuric or other acid, which enters into combination with the lime contained in the stock, setting the grease free.

Claim.—Treating the residuum of glue stock, after the glue has been extracted, with sulphuric or other acid, and removing the grease set free by such acid, substantially in the manner described.

No. 49,384.—EDWIN COPLESTON, Wrentham, Mass.—*Machine for Pressing Bonnets and Hats.*—August 15, 1865.—In this invention the hat block is arranged, crown upward, upon a frame, the pedestal of which slides within a railway. By a system of pinions and gearing, moved by a crank, the block may be rotated by the hand of the operator; a segment of a ratchet wheel beneath serves to incline the block from right to left as desired. The flats or pressers are so pivoted to horizontal arms stretching over the blocks as to rotate on their pivots; the arms revolve within sleeves at their extremities; these sleeves are connected to collars surrounding a perpendicular shaft, and held in position thereon by set screws, the shaft itself being adjustable by means of a coil spring between the lower collar and the platform beneath, through which the shaft passes to be coupled to a lever elevating arrangement under the platform.

Claim.—First, in machines for pressing hats and bonnets, the combination of the travelling bed B, the frame C, which revolves upon it, the segment ratchet S, with a hat block W, the said plates being constructed and operated substantially as and for the purpose above described.

Second, the combination of the parts mentioned in the preceding claim, which presents the hat block in different positions with the arms, which carry the flats, and with the revolving upright shaft L, the said arms and shaft being constructed and operated substantially as above described.

No. 49,385.—JOSEPH COUCH, Harrison, Me.—*Car Coupling.*—August 15, 1865.—This invention consists of an adjustable lip, pivoted at the forward end of the bunter bar, being of a scooped form to receive the link of an approaching car; upon contact with an adjacent car, the lip is forced back, and retained in a catch by means of a lever connected with the lip.

Claim.—The lever with the lip and suspension bar attached, in combination with the fulcrum and rest, substantially as described and for the purposes specified.

No. 49,386.—JOHN R. CROSS, Chicago, Ill.—*Coupling for Drill or Pump Rods.*—August 15, 1865.—This invention consists in fitting the two ends of the shafts to be coupled so that they will lap in a bevelling form, and also in cutting a screw-thread upon each, so as to admit of the sleeve running from one to the other. One shaft has the thread cut far enough to receive the whole length of the sleeve and a jam nut; when the two are put together the sleeve is screwed over the joint, and the jam nut tightened up against the sleeve.

Claim.—Lapping the contiguous ends of the two rods to be coupled together past each other and cutting a screw-thread thereon, which shall run contiguously from one to the other, in combination with a sleeve or nut working in the manner and for the purposes set forth.

No. 49,387.—CHAUNCEY L. CROWELL, Peoria, Ill.—*Tire Machine.*—August 15, 1865.—This invention consists in the method of operating the movable shear blade by means of a connecting rod pivoted thereto, the other end of which is attached to and constitutes the face of the clamp or sliding jaw of the machine.

Claim.—The bar *a*, which connects the shear with the movable slide as shown and described.

No. 49,388.—FORD B. CURTIS, Gardiner, Me.—*Horse-shoe Calking Vise.*—August 15, 1865.—This invention consists in fitting the upper end of one of the jaws of a common blacksmith's vise with a recess of a proper shape to form the calks by hammering them into it, and causing the tops of the jaws to give the proper shape to the toe of the shoes.

Claim.—The horse-shoe calking vise, constructed with the calk-forming recess or slope *c*, in one of its jaws, and having its other jaw extending above such recess, and arched, substantially as and for the purpose specified.

No. 49,389.—RICHARD DEIGHTON, jr., Fairweather, Ill.—*Plough.*—August 15, 1865.—This invention consists in making the frame for a double plough in the form of a triangle, and extending the handles to form a brace for the standard, also in the form of a triangle.

Claim.—The plough frame constructed of the two beams A and A′, the cross piece B, the posts D and D′ and handles C C, substantially as and for the purpose set forth.

No. 49,390.—JOHN H. DOOLITTLE, Derby, Conn.—*Fruit Basket.*—August 15, 1865.—The basket is formed of a bent strip, having its ends interlocked, and a bottom board with surrounding and retaining bands. The bottom is sustained by a band passing around the body of the basket and through slots.

Claim.—The combination of the bent strip having its ends interlocked and bottom board with the surrounding and retaining bands, the whole arranged to constitute a box or basket, substantially such as hereinbefore described.

Also, sustaining the bottom of the basket by means of a band 1, passed around the body of the basket and through slots, substantially in the manner set forth.

No. 49,391.—HENRY DURRE, New York, N. Y.—*Rotary Engine.*—August 15, 1865.—This invention consists in providing an adjustable cylinder to enclose the ordinary revolving piston and shaft, which are fixed in bearings in the usual manner. The cylinder is adjustable vertically, and may be brought into more or less direct contact with the piston by means of screws above and below the same, so that as the cylinder wears away at its point of contact with the piston a slight movement of the screws adjusts the surfaces again, and thus prevents a waste of steam. The induction and eduction pipes and ports are attached to the cylinder as usual, except that flexible pipes are used for the conveyance of the steam.

Claim.—The adjustable cylinder B, with its manner of adjustment, in combination with the reversible steam cocks K K and steam and exhaust pipes *e f*, together with the rotary piston with centrifugal valves, substantially as and for the purpose described.

No. 49,392.—WALTER EDGERTON, Spiceland, Ind.—*Cane-juice Evaporator.*—August 15, 1865.—This invention consists of a furnace provided with pans connected together. A standard, supported by the walls of the furnace, is provided with a flanged sleeve, rods being attached to the flange of said sleeve at one end, and to the evaporating pans at the other. The sleeve is elevated by means of a slide operated by a lever, the pans being thereby raised above the top of the furnace, in which position they can be rotated freely.

Claim.—First, supporting the coupled pans B B′ by the flanged sleeve or centre *a*, or its equivalent, carried by the standard C, and operated to raise the pans by the hand lever *e*, substantially as and for the purpose set forth.

Second, coupling the pans B B′ together, with an inclination relatively to each other, in the manner and for the purpose described.

No. 49,393.—JACOB EDSON, Boston, Mass.—*Ship Pump.*—August 15, 1865.—In this invention the globular pump head rests as a ball joint upon or within the upper concavity of a collar surrounding the narrow pump cylinder and resting over the opening in the deck. A screw-bolt passes vertically through a projection from the pump-head opposite the delivery spout, and enters a ring in the collar. This bolt is adjustable by means of nuts above and below the projection. The operating pump cylinder is arranged in an oblique position below the deck, in an outer chamber which connects at an acute angle with the lower part of the cylinder passing through the deck. The induction port is lateral near the bottom of this outer cylinder, and beneath an annular diaphragm in it; this port receives water from a tube having a corresponding lateral port, there being a soft packing around the opening. The valve near the bottom of the operating cylinder consists of a flexible disk, having a support with prongs descending into the narrow neck beneath it, and held by an elastic force therein, and a suitable attachment above, to which the under part is keyed.

Claim.—First, the combination and arrangement of the head of the pump formed as described, with the collar or deck plate, the two forming a self-adjusting joint that enables the pump to be set and fastened at any described inclination, as set forth.

Second, the lower valve box or support formed with a series of prongs sprung into and holding with an elastic force upon the valve seat, as described.

Third, the combination of a wedge-shaped valve box or support, with a seat having two different tapers for the purpose of holding the valve box or support firmly, and yet allowing of its easy removal for repairs, as described.

Fourth, a flexible disk valve so arranged with regard to its seat and a suitable support, as, when closed, to cover the space between the said seat and support, and to play independently of the latter as described, and for the purpose set forth.

No. 49,394.—FERDINAND FARHOLTZ, Louisville, Ky.—*Repeating Action for Pianos.*—August 15, 1865.—The repeating action in this invention is effected by means of double notches upon the hammer butt in combination with a bracket, an adjustable pad and jack, l arranged as shown in the engraving.

Claim.—The double notches *a* upon the hammer butt *b*, in combination with the bracket, adjustable pad *e f*, and jack B, all constructed, arranged, and employed in the manner and for the purpose herein specified.

No. 49,395.—IRA C. FLAGG and F. W. FLAGG, Middletown, Conn.—*Row Lock.*—August 15, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The circular groove *d* and slot *e* in the stem of the horns, in combination with the pin *c* and socket C, constructed and operating substantially as and for the purpose described.

No. 49,396.—ISAAC FULTON, Madison, Penn.—*Machine for Cutting and Grinding Fodder.*—August 15, 1865.—This invention consists in the combination and arrangement of a circular disk provided with knives, an adjustable plate, hopper, and feed rollers, for the purpose of cutting and grinding hay, straw, &c.

Claim.—The arrangement of the disk A, flexible and adjustable plate B, pulleys C and D, belt E, and bonnet F, the whole being arranged, constructed, and operating substantially as herein described, and for the purpose set forth.

No. 49,397.—F. A. GILES, New York, N. Y.—*Winding and Setting Watches.*—August 15, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The combination, with the vibrating yoke plate D, carrying the two wheels *f* and *g*, one of which is arranged to gear with the wheel E on the winding arbor, and the other with the cannon pinion of a wheel C having a series of teeth *e* on its periphery, which gears with the wheels *f* and *g*, and a series of contrate teeth *c*, which gears with a spur wheel *b* on the spindle passing through the stem, the whole arranged and operating substantially as herein described.

No. 49,398.—BENJAMIN P. GROVER, Holyoke, Mass.—*Cupboard Latch.*—August 15, 1865.—In this invention the latch is pivoted in the middle upon a plate which is turned up so as to form a guard for the rear end of the latch by making slots in the turned up edges, of which there are two, and through one of which the latch projects when used either as a right or left hand latch; the catch is made double. The thumb piece may be attached to either side of the plate by one of the screws that fasten the plate to the door.

Claim.—First, the double guard *e* having a central and end stops *f' f*, substantially as described.

Second, the employment of the thumb piece *g* in combination with the guard *e* and latch *b*, substantially as and for the purpose described.

No. 49,399.—ANTHONY GUNTHER, Philadelphia, Penn.—*Piano.*—August 15, 1865.—This invention consists in attaching to the piano a second vibrating bridge, and also, in combination with the same, a second sounding board, for the purpose of increasing the volume of sound.

Claim.—First, the second vibrating bridge A, as herein shown and described.

Second, the combination of the vibrating bridge A with the second sounding board *c*, as herein shown and described.

No. 49,400.—C. H. HALL, New York, N. Y.—*Car Truck.*—August 15, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, attaching the front and rear wheels in pairs to the bars D D, arranged parallel with, and pivoted to, the sides of the truck-frame, substantially as set forth and for the purpose described.

Second, the iron frames A B C E on which the car rests, cast in a single piece, substantially as and for the purpose described.

Third, a truck wheel with an annular groove each side of the central partition O, in combination with two sets of anti-friction balls, a fixed axle, and side washers, and the iron frame A B C E, substantially as and for the purpose described.

Fourth, in a series of friction balls the arrangement alternately of larger and smaller balls when combined with a truck frame, substantially as and for the purpose described.

Fifth, the hollow axle S provided with an outer flange *n*, in combination with the bars D, truck wheel, and anti-friction balls and truck-frame, substantially as and for the purpose described.

Sixth, the removable part *n* of the axle and the washer M cast in one piece, in combination with the truck wheel L and anti-friction balls and truck frame, substantially as and for the purpose described.

No. 49,401.—FREDERICK W. HARLASS, New York, N. Y.—*Banjo.*—August 15, 1865.—Within the cylinder of the banjo are placed rings which are pressed apart by means of screws for the purpose of straining the head. Combined with the rings above mentioned is also another ring and cylinder fitted in the banjo.

Claim.—The rings *b* and *c* within the cylinder of the banjo, pressed apart by screws to strain the head, as specified.

Also, the ring *f* in combination with the rings *b* and *c* and cylinder *d*, fitted and employed as and for the purpose specified.

No. 49,402.—GEORGE HARVEY, New York, N. Y.—*Machine for Drying and Pressing Leather.*—August 15, 1865.—This invention consists in the combination of two rollers, of regulating screws, plates, and springs; and, in combination with the above, a journal supporting a roller and a drainer.

Claim.—First, in combination with the rollers D D2, the regulating screws J and J2, plates I and I2, and springs *b*2, when the same shall be constructed, operated, and combined substantially as and for the purpose specified.

Second, in combination with the same, the use or employment of the journal C supporting a roller and drainer L, for the purpose herein fully set forth.

No. 49,403.—CHARLES M. HICKS, Rushville, N. Y.—*Sheep Rack.*—August 15, 1865.—In this invention the end pieces are slotted at the upper end, which allows the whole series of slats to swing outward from the bottom, and thus discharge whatever may have been accumulated in the trough, which is formed by a union of the bottom of the rack and the longitudinal board of the front.

Claim.—First, the sides B B attached to the framing, substantially as shown, to admit of swinging outward from the lower edges of the boards A A, and also of being raised and lowered to admit of being fastened to, and unfastened from, the rack, as described.

Second, the end pieces C, in connection with the sides B, to form the ends of the troughs when the sides are down, or in a closed state.

No. 49,404.—MARTIN W. HILL, New York, N. Y.—*Flour Chest.*—August 15, 1865; antedated August 4, 1865.—This invention is explained by the claim and engraving.

Claim.—First, the combination of the sliding moulding-board I, hinged lid A, and one or more flour-bins K, substantially as and to the effect herein set forth.

Second, the arrangement hereinabove described of the sliding moulding-board I, doors or covers L, one or more of them, or their equivalent, and one or more spouts or openings J for admitting the flour to the bins, as set forth.

Third, the combination of the hinged shelf E with the lid A, substantially as and for the purposes set forth.

Fourth, the combination of one or more flour-bins K, one or more side doors M opening thereto, and inner sliding or movable boards for retaining the flour, said inner doors to be so secured as to be, each of them, capable of ready and complete removal, so as to leave completely open and unobstructed space from the upper remaining board to the top of the opening, which the series of said boards is intended to partially close, substantially as and to the effect above set forth.

No. 49,405.—N. D. HINMAN, Pleasant Dale, Conn.—*Horse Hay Fork.*—August 15, 1865.—In this device the teeth or tines are attached to the fork-head by having the rear ends of the former made in the form of three sides of a quadrangle to receive the fork-head. The front sides of the quadrangle are fitted in grooves in the front side of the head, and the rear sides are provided with eyes, through which, and eyes at the rear of the clips, to which the bail is attached, a rod passes.

Claim.—First, securing or attaching of the teeth or tines to the fork-head by having the rear ends of the former made in the form of three sides of a quadrangle to receive the fork-head, the front sides of the quadrangles being fitted in grooves in the front side of the head, and the rear sides provided with eyes, through which, and eyes at the rear of the clips, to which the bail is attached, a rod passes, substantially as herein described.

Second, the catch G, bar H, and arm I, all arranged and applied to the handle B, and in relation with the bail F, to operate substantially as set forth.

No. 49,406.—S. L. HOCKETT, Pittsburg, Penn.—*Uterine Supporter.*—August 15, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—Attaching the front ends of the wires S S to the bars A by screwing the end of one of the wires into one of the projections *e* at right angles to the line of said bar, so as to

act as a hinge, while the end of the other wire is left perfectly plain, and bent so as to pass through a hole in the other projection *e*, diagonally to the length of the bar, to form a hook, in the manner substantially as herein shown and set forth.

No. 49,407.—C. O. HOLYOKE, Boston, Mass.—*Defensive Armor for Vessels of War.*—August 15, 1865.—This invention consists in the employment of curved or arched metallic supports for the sides of the ship within; against the sides outwards is a series of arched supports for the laminated iron which cross the series of arches.

Claim.—The arched metallic beams F, constructed and applied substantially as set forth, for the purpose specified.

Also, the arched backing G, constructed and applied substantially as described, for the purpose set forth.

Also, the curved cross laminated facing H, constructed and applied substantially as set forth, for the purpose described.

Also, the flat cross-laminated facing I, constructed and applied substantially as set forth, for the purpose described.

Also, the tie bars E, with their projections *a*, in combination with the arched beam F, substantially as described.

No. 49,408.—W. D. HOOKER, Stockton, Cal.—*Pump.*—August 15, 1865.—In this invention a solid piston moves vertically in its cylinder; near the bottom and near the top at the end of the stroke a port opens into a side cylinder, or valve-chest, between two valves. The induction port is at the bottom of this side cylinder and the eduction port at the top. The side cylinder has an inclined partition between the two sets of valves, which, with their respective water ways, are thus separated from each other.

Claim.—The vertical inclined partition *h*, in combination with the suction valve seats C1 C2 and discharge valve seats *d*1 *d*2, the whole arranged as described and for the purpose specified.

No. 49,409.—G. W. HUGHES and J. G. PUSEY, Providence, R. I.—*Magazine Fire-arm.*—August 15, 1865.—This invention requires a reference to the specification and drawings to be properly understood.

Claim.—First, the magazine B, having a concave bottom as shown, with the sliding cover, constructed as described, so combined and arranged that the magazine can be filled without detaching any of the parts.

Second, in combination with the magazine B, the oval spring C, substantially as described.

Third, the bevel-faced follower D, in combination with the cap *a*, provided with the fingers *f*, arranged and operating substantially as and for the purpose set forth.

Fourth, the carrier frame A, cut away internally, to permit the location of the hammer therein, substantially as shown.

Fifth, the breech block G, when recessed as shown and described and having a hole for the nose of the hammer to strike through, as set forth.

Sixth, the hammer H, constructed as shown and located inside of the carrier frame and breech block, as and for the purpose set forth.

Seventh, locating the main spring K in the lever guard O, substantially as shown.

Eighth, the indicator L, operating substantially as set forth, for the purpose of showing when the gun is cocked.

Ninth, the coiled spring *o'*, located in the annular recess surrounding the shaft M of the retractors, as and for the purpose set forth.

Tenth, the stop N, constructed and operating as herein set forth.

Eleventh, making the under side of the sliding cover of the magazine concave or arched, substantially as shown, to fit it to the form of the bullet.

No. 49,410.—JOHN ADAM HUSS, St Louis, Mo.—*Hydro-pneumatic Engine.*—August 15, 1865.—This invention consists in condensing air for use as a motor by the hydro-dynamic power of water applied on the principle of the hydraulic ram; the power being applied to expand an elastic cylinder, which again contracts when the normal pressure, due to the mere weight of the water, is restored. The expanding membrane being within an outer cylinder, the air contained in the space between them is compressed and forced through a valve passage into a receiver, the said intervening space being again filled with air when the membrane contracts, through a valved passage opening inwardly.

Claim.—The compression by hydraulic pressure, acting on the principle of the hydraulic ram, of air into an air reservoir, to a sufficient degree of intensity to serve as a motive power.

No. 49,411.—JAMES INGRAHAM, New York, N. Y.—*Shutter Case.*—August 15, 1865.—This invention consists in combining with a sliding shutter case or screw a stationary frame placed below the sidewalk or other surface.

Claim.—The stationary frame *a* below the sidewalk or other surface, in combination with the sliding shutter case and screw, substantially as and for the purposes specified.

No. 49,412.—ANTHONY ISKE, Lancaster, Penn.—*Hospital Bedstead.*—August 15, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, a bedstead of two independent sections A B, fitting and sliding into each other in the manner and for the purpose specified, in combination with their folding legs R U, and head board or frame A and removable foot board or frame Q

Second, the pillow support formed by the arms I, braces L K, block P, and bands or webbing *m m*, all arranged and operating substantially in the manner and for the purpose specified.

No. 49,413.—JAMES O. IVES, St. Louis, Mo.—*Potato Digger.*—August 15, 1865.—In this machine two rollers, one above and the other beneath the axle, carry a belt with teeth which pass between teeth upon a cylinder at every revolution and carry the potatoes over the upper roller. A row of teeth is placed at the edge of the cylinder and of the belt to keep potatoes from rolling off the sides.

Claim.—First, two rollers *f* and *s*, one above and the other below the axletree *r*, extending round which is the belt *d*, with same kind of teeth as on cylinder, which teeth pass between those on the cylinder at every revolution and carry the potatoes over the upper roller, as shown and set forth.

Second, a row of teeth on cylinder and on belt, to keep the potatoes from rolling out at either side of the same if necessary.

No. 49,414.—JOHN JOHNSON, New York, N. Y.—*Steam Valve.*—August 15, 1865.—The object of this invention is to secure a tight valve, when used to shut off steam or water, and by the arrangement of its parts to preserve the valve in good working order longer than is usual. Its novelty consists in the valve guided in cylinder, in combination with the screw rod collar and disks.

Claim.—The valve *d*, guided in the cylinder *e*, and taking a rib-formed seat upon the diaphragm, in combination with the screw rod *f*, collar *h*, and disk K and T, for the purposes and as specified.

No. 49,415.—JOSEPH L. JOYCE, New Haven, Conn.—*Shoe.*—August 15, 1865.—This invention consists in an elastic gore and lacing in the front, and the side buttoned opening.

Claim.—The combination of the elastic gore and lacing in the front with the side opening, substantially in the manner and for the purpose specified.

No. 49,416.—CHARLES H. KEENER, U. S. N.—*Scale Borer for Steam Boilers.*—August 15, 1865.—This invention consists in the combination and arrangement of the bed-plate, spindle, cutter-head, auxiliary spindle, hand lever, clamp, and standard.

Claim.—The combination and arrangement of the bed-plate A, spindle G, cutter-head H, auxiliary spindle G2, hand lever I, clamp *k*, and standard J, substantially upon the principle and in the manner as herein set forth.

No. 49,417.—JOSEPH KNITZ, West Meriden, Conn.—*Lantern.*—August 15, 1865.—This invention consists in the mode of connecting two parts of which the lower portion of the lantern is composed, so that a door attached to the lower may register with an opening in the upper part.

Claim.—The connecting of the two parts B E of the lower part of the lantern together, to admit of the turning of the same as described, in connection with the flange *c* and door F on the upper end of B, and the opening *d* in E, all being arranged substantially in the manner and for the purpose set forth.

No. 49,418.—H. R. KOON, Pittsfield, Mass.—*Deep Well Tubes* —August 15, 1865.—This invention consists of an exterior perforated case, combined with an interior perforated pipe by means of a shoe-piece that sits upon the lower end of the said pipe, and receives the lower end of the said casing; the object being to increase the area of the perforated surface in contact with the earth, without enlarging the well tube. The perforations in the exterior case are smaller than those in the tube, so that the latter may not become obstructed.

Claim.—The perforated casing B, in combination with the shoe A, and perforated well tube C, as and for the purpose specified.

No. 49,419.—CHARLES F. KUHNLE, Harrisburg, Penn.—*Bracket for Shelves.*—August 15, 1865.—This invention consists in forming a bracket with a smooth projection for supporting the same vertically, and with a flange which fits into a mortise in the shelf to prevent any lateral movement thereof.

Claim.—The bracket B, formed with the projection *b*, and flange *b'*, as and for the purposes herein specified.

No. 49,420.—A. D. LAIDLEY, Philadelphia, Penn.—*Cartridge-box.*—August 15, 1865.—This invention consists in a case with recesses in both edges for containing cartridges, and provided with two flaps, and so suspended to the accoutrements that it can be reversed; also in plates hung to the ends of the case, and constructed for attachment to the belts.

Claim.—First, a cartridge case with recesses in both edges for containing cartridges, and provided with two flaps, and so suspended to the accoutrements that it can be reversed as described, for the purpose specified.

Second, the plates C hung to the ends of the case, and constructed for attachment to the belts D and E, substantially as described.

No. 49,421.—THOMAS LAMB and JOHN ALLEN, Philadelphia, Penn.—*Sewing Machine.*—August 15, 1865.—In this machine, by means of fingers on a reciprocating bar, the thread of the revolving shuttle is alternated from one side to the other of the shuttle to remove twist. The quadrangular motion is given to the feed dog by the same slide which carries the thread fingers.

Claim.—First, alternating the threads which form the seam from one side to the other of the shuttle, so as to remove the twist from shuttle thread, substantially as above described.

Second, the finger guides *j j*, and the slots O O1 O2 formed in the slide C, substantially as and for the purpose above described.

Third, operating the feeding dog by means of the slide C, through the action of the slot *h*, with its curved outer side and its projecting side *i*, and through the action of the elevation *p*, the said devices being placed on the slide C, and acting against the under side of the dog, and against its finger *n*, substantially as above described.

Fourth, the combination of the sliding ring of the arm J, the caster pin *a*, and the grooves *t t*, for the purpose of producing the reciprocation of the slide, substantially as above described.

Fifth, the loop-detaining hook *g*, placed on the inside edge of the shuttle, substantially as herein shown.

No. 49,422.—CHARLES W. LE COUNT, Norwalk, Conn.—*Governor Valves.*—August 15, 1865.—This invention consists in arranging in the valve-rod of governor valves a ball and socket joint, to compensate for the vibratory motion of the same, and thus relieve it of the friction caused by the pressure of its contact with the sides of the stuffing box.

Claim.—The arrangement of the ball and socket joint in the rod of the throttle-valve lever of steam engine governors, in the manner substantially as herein described and for the purpose set forth.

No. 49,423.—MILES K. LEWIS, JOHN C. DURBIN, and LYMAN P. LEWIS, Iowa City, Iowa.—*Machine for Raking and Loading Hay.*—August 15, 1865.—This invention consists of a three-pronged rake tooth hinged to a vibrating head by two of its prongs, so as to vibrate on the head, and with the third prong working up and down through the head, together with a device for preventing the hay from catching as it is carried up by the elevating belt.

Claim.—First, a three-pronged rake tooth, hinged to a vibrating head by two of its prongs, so as to vibrate on the head, and with the third prong working up and down through the head, substantially as described.

Second, in combination with the raking teeth the roller D, arranged behind the teeth, for the purpose set forth.

Third, the adjustable bar D2, to support the rake heads, as described.

Fourth, the straps Q, in combination with the boards L2, and rails G G, as described.

No. 49,424.—ANDREW B LIPSEY, New York, N. Y.—*Gas-fitter's Tongs.*—August 15, 1865.—This invention consists in uniting the two shafts or handles by means of a slot in the hooked one, into which the other is inserted, and held in position by means of two serrated surfaces, acting as a fulcrum.

Claim.—The clamp or wrench herein described, especially adapted for gas-fitting purposes, the same consisting in the combination of two shafts, constructed, arranged, and operating together substantially in the manner specified.

No. 49,425.—J. A. LOOMIS, Fond du Lac, Wis.—*Machine for Driving Hoops on Casks or Barrels.*—August 15, 1865; antedated February 15, 1865.—This invention consists in attaching to an upright rack bar that is reciprocated by a pinion, a head to which is pivoted the pendent drivers, and which are kept in contact with the cask by springs bearing on the outside of the drivers. By revolving the pinion, when geared with the rack, the hoops are driven on to the casks or barrels.

Claim.—First, the combination of the drivers D, springs E, and toothed bar B Q, when constructed as and for the purposes herein described.

Second, in combination with the above the rack A on the bar B, the gearing *e* L K, treadle I, and weight C, all arranged to operate as described.

Third, the band F, with the pendants G attached, acting on the projecting upper ends of the pivoted drivers D, when elevated as herein described.

Fourth, the ring U, in combination with the drivers D, substantially as and for the purpose set forth.

No. 49,426.—WILLIAM MAURER, Buffalo, N. Y.—*Window.*—August 15, 1865.—This invention relates to what are usually called French sashes, and consists in a combination of devices which automatically prevent the entrance of water above, at the sides of, or beneath the window.

Claim.—The application of spring levers, in combination with sashes which have a swinging and a rising and falling motion, substantially as and for the purpose set forth.

Also, the use of a follower, in combination with the rising and falling sashes, substantially as and for the purpose described.

No. 49,427.—JOHN S. MCINTIRE, Chicago, Ill.—*Apparatus for Removing Buildings.*—August 15, 1865.—This invention consists in the arrangement of balance timbers, arranged upon shoes and rollers, to adapt themselves to a building placed thereupon for removal, and thereby avoiding the necessity of levelling the ground over which the building passes.

Claim.—First, the balance F F′, composed of two or more pieces of timbers centrally pivoted to each other, substantially as and for the purposes set forth.

Second, the combination of the balance F F′ and block C with the shoes B.

Third, the arrangement and combination of the balance F F′, block C, shoes B, rollers E to be used in moving buildings without levelling a track for them, substantially as set forth.

No. 49,428.—J. F. MCNEE, Philadelphia, Penn.—*Folding Desk.*—August 15, 1865.—In this invention the desk is of the usual construction, with its parts so hinged as to fold the article of furniture compactly for transportation, or for storing it away.

Claim.—A desk composed of pieces hinged and otherwise connected together and arranged for being folded, substantially as and for the purpose herein set forth.

No. 49,429.—CHARLES S. and JOSEPH B. MESSENGER, Logansport, Ind.—*Grain Screen.*—August 15, 1865; antedated August 11, 1865.—This invention consists in the combination of a revolving screen with an inclined one, having a peculiar vibrating motion communicated to it by the action of the revolving screen; by its operations various sized seeds are separated.

Claim.—The cylinder C, in combination with screen E, the several parts being constructed, arranged, and operated as and for the purpose specified.

No. 49,430.—ISAAC MORLEY, Alleghany City, Penn.—*Brick Machine.*—August 15, 1865.—This invention consists in pressing the clay into the moulds by means of steam acting on plates that are forced out, thereby pressing the clay in front of them; in movable moulds combined with movable frames; in operating the said frames by means of wheels and slides; finally, in the special arrangement of the frames, by which the bricks in the mould are moved back from contact with the clay in the hopper, or the plates.

Claim.—First, pressing the clay into the moulds by means of steam or other fluid acting on the plates L, or their equivalents, substantially as shown and described.

Second, the movable moulds E, in combination with the frames D and G, arranged and operating substantially as and for the purpose herein set forth.

Third, operating the frames G E and D by means of the wheels and slides, or their equivalents, as and for the purpose set forth.

Fourth, the arrangement of the frame D, as shown in Fig. 5, whereby the bricks in the moulds shall be moved back from contact with the clay in the hopper, or the plates F, as and for the purpose set forth.

No. 49,431.—HENRY B. MEYER, Cleveland, Ohio.—*Steam Generator.*—August 15, 1865.—This invention consists in providing a swinging reservoir, which is suspended in the fire-box of the generator, and adapted to the use of hydrocarbon oils for fuel, and which has immediately below it another reservoir, to contain naphtha, or other light oils, to be used in igniting the fuel in the upper reservoir. The upper reservoir is provided with a fluid-level indicator, which is placed outside the furnace, for the purpose of indicating the height of the oil in said reservoir. In the top plates of the oil reservoir perforations are made, through which the gas escapes as it is formed, and is ignited by coming in contact with deflectors placed directly above it. Directly over the above-named deflectors are placed a series of cups for receiving and distributing the steam which is conveyed to them through the coiled pipes from the exhaust of the engine, or directly from the generator, for the purpose of being decomposed by the heat, and thus burned as auxiliary fuel.

Claim.—First, a swinging reservoir suspended within the fire-box of a steam generator, and beneath the generating surface of the same, for containing hydrocarbon oils, substantially as shown and described.

Second, a reservoir B for containing naphtha or other light oils used for inducing combustion in the reservoir B above it, in the manner and for the purpose as shown and described.

Third, the combination of the reservoir B and B′ with the deflector *a* placed between them, substantially as shown and described.

Fourth, the combination of the reservoir B with the fluid-level indicator D, substantially as shown and described.

Fifth, the deflectors F in combination with the reservoir B, as and for the purpose described.

Sixth, the inverted cup or deflectors M placed above the deflectors F, for the purpose of receiving and distributing the superheated steam, substantially as shown and described.

Seventh, the combination and arrangement of the deflectors F and the inverted cups M, substantially as and for the purpose described and shown.

Eighth, the combination of the superheating helical pipes *m* with the inverted cups M, substantially in the manner shown.

Ninth, the circular flues H'' and P placed in the base of the water chamber, substantially as shown and described.

No. 49,432.—MARCUS P. NORTON, Troy, N. Y.—*Cancelling Stamps.*—August 15, 1865; antedated August 4, 1865.—This invention consists in the employment of an adjustable punch for the purpose of cancelling internal revenue or postage stamps by punching a hole through each stamp, and at the same time making an impression upon it of the name of the party so cancelling the same.

Claim.—The adjustable punch D, arranged and combined in the manner substantially as and for the purposes herein described and set forth.

Also, the said punch in combination with the cork, wood, or any elastic substance E, in the manner substantially as and for the purposes herein described and set forth.

No. 49,433.—ALONZO PALMER, Hudson, Mich.—*Foot Warmer.*—August 15, 1865.—This invention consists of a square or oblong wooden box, the top of which is cut slanting, and is composed of a corrugated iron foot plate, beneath which is a corrugated conical metal reflector, used in connection with a lamp or other suitable heating device.

Claim.—The arrangement of the corrugated plate B with the frame A, radiator C, and lamp E, the several parts being constructed and used in the manner and for the purpose herein specified.

No. 49,434.—SAMUEL PEARSON, Cincinnati, Ohio.—*Bed Bottom.*—August 15, 1865.—This invention consists in the manner of securing the joints or corners of bedsteads, and in the supports of the slats on which the bed is to rest.

Claim.—First, securing the joints of bed bottoms by means of a joint piece constructed and applied to the corners of their frames, substantially as above described.

Second, the combination with the aforesaid joint pieces of the double armed springs E F and notched pins *c c* with the slats C and frames D, when said pins and springs are constructed and employed as and for the purposes herein specified.

No. 49,435.—CHARLES PERLEY, New York, N. Y.—*Band for Bundles.*—August 15, 1865; antedated August 4, 1865.—This invention consists in the insertion of a metallic eyelet in one end of a piece of tape.

Claim.—The band for bundles of bills, paper, &c., formed of a tape with an eyelet, as specified, forming a new article of manufacture.

No. 49,436.—MASON PIKE, North Leverett, Mass.—*Washing Machine.*—August 15, 1865.—This invention consists in a means employed for operating two swinging beaters, whereby the clothes are thoroughly operated upon, and with but a slight expenditure of power.

Claim.—First, operating the swinging beaters D by means of the pendent plates G, connected by arms H to rock shafts I, which are actuated by pitmen K from reverse cranks L, on a shaft M, substantially as and for the purpose set forth.

Second, the water chambers R R provided with valves S, and arranged in relation with the suds box B, substantially as and for the purpose specified.

No. 49,437.—S. S. RITTER, Philadelphia, Penn.—*Truss.*—August 15, 1865.—This invention consists in the application to the pad of the truss of semielliptical or semicircular elastic pads, which are intended to receive the pressure during the movements of the body, and thus prevent the pad from chafing the flesh; also in the insertion of an adjustable curved spring behind the pad and supporting bar.

Claim.—First, the soft flexible pad or piece E made in semielliptical or semicircular form, and employed to receive the pressure of the body immediately around the operating pad, substantially as and for the purpose set forth.

Second, the spring F applied directly to the pad B, in the manner and for the purposes herein described and represented.

No. 49,438.—M. S. ROBERTS, Lewiston, N. Y.—*Apparatus for Preparing Peat.*—August 15, 1865.—This invention consists of a box through which extends a shaft provided with cutters. The peat is conveyed from the place where it is obtained to the box by means of an endless band, which is arranged in a frame made in sections. The peat, after leaving the above-named box, passes into another box, being carried along by means of a screw to the aperture where it is discharged.

Claim.—First, the within-described machine for the manufacture of peat, the same consisting of the endless feeding band and its frame, and the box or receptacle for distributing and spreading the peat upon the ground to be dried, arranged together, and connected with any proper mill for disintegrating the peat, substantially in the manner herein above described and represented in the drawings.

Second, the adjustable frame for the endless band, made in separate sections or parts, and connected together substantially as described and for the purpose specified.

Third, connecting the endless band with, and operating the same by, the driving shaft of the mill, through gearing so arranged as to allow its outer end to be brought to any desired locality, substantially as and for the purposes specified.

Fourth, the arrangement of the distributing or spreading box for the peat, the same consisting in so attaching it to the driving power of the mill as to be freely turned or swung around upon the driving shaft thereof, without disconnecting the same therefrom, substantially as herein described.

Fifth, the use of the spiral feeding shaft for feeding the peat along in its spreader as fast as it enters the same through the tube thereof, connecting it with the disintegrating mill, arranged and operating substantially as described.

Sixth, the device described for marking the peat when spread upon the ground, arranged and connected with its distributor, as set forth.

No. 49,439.—E. P. RUSSELL, Manlius, N. Y.—*Driving Wheels of Harvesters.*—August 15, 1865.—This invention consists of a wrought and cast iron pin, with countersunk head, roller, and driving wheel, the bearing parts being chilled in the process of casting.

Claim.—The combination of the driving wheel A, the pinion C, and friction roller B, constructed in the manner and arranged substantially as described.

No. 49,440 —LOCKWOOD SANFORD, New Haven, Conn.—*Tree Protector.*—August 15, 1865.—In this invention the thin edges of the lead or metal of the trough are overlapped and clamped between two bent semicircular clasps. These clasps assist in fastening the protector to the tree.

Claim.—The use of a clasp or fastener, composed of two semicircular parts, as *c c* and *e*, for the purpose of fastening the joints of troughs for tree protectors, &c., when constructed and fitted for use, substantially as herein described and set forth.

No. 49,441.—HENRY W. SARGENT, jr., Lowell, Mass.—*Flour Sifter.*—August 15, 1865.—This invention consists in forming an ordinary flour sifter with a tunnel under the sieve, to gather the flour to a more central point, so that it will fall within the dish placed under it.

Claim.—Providing a sieve with a tunnel, substantially as and for the purpose herein described.

No. 49,442.—A. M. SAWYER, Athol, Mass.—*Sash Supporter.*—August 15, 1865.—This invention consists of a cylindrical roller, composed externally of India-rubber, or other elastic material, and of an internal metallic core having eight unequal sides; the shorter side being further removed from the axis than the longer sides, and having consequently a less thickness of elastic covering, will be less yielding than the other portions.

Claim.—A window sash stop or supporter, consisting of an elastic roll containing an unyielding block or centre of an irregular form, in cross sections, substantially as described, the said roll revolving in suitable bearings, as set forth.

No. 49,443.—JACOB SCHNEIDER, Cincinnati, Ohio.—*Artificial Leg.*—August 15, 1865.—This invention consists of two sheaths of leather, one intended to be laced to the leg above, and the other below the knee. Through each side of these sheaths runs a metallic rod, articulated at the knee, and terminating on either side of a block foot, to which these are connected by a pivot. The rocking movement of the foot in walking is regulated by two elastic straps, one connecting the heel with the rear of the lower sheath, the other forming a similar connection between the front of said sheath and the instep.

Claim.—The arrangement of the sheaths A and B and foot G, the whole being connected together by artificial rods D E F D′ E′ F′, while elastic straps H and I connect to the sheath B the heel and the instep of the foot, substantially as set forth.

No. 49,444.—F. B. SCOTT, Buffalo, N. Y.—*Mode of Ornamenting Show Cards.*—August 15, 1865.—This invention is explained by the claim.

Claim.—First, the combination of a printed or painted card with gilding of glass. in such a manner that the parts of the letters or their shading not on the glass shall be supplied by the colors or shades on the card, substantially as specified.

Second, the exhibition of railroads or other routes by the same method, as specified.

No. 49,445.—WILLIAM SELLERS, Philadelphia, Penn.—*The Giffard Injector.*—August 15, 1865.—This invention consists in the combination with the overflow apertures of a chamber, for the purpose of utilizing the water, united at that point in the ordinary injector, and also for the purpose of making the instrument self-regulating in reference to the amount of water injected to the boiler under a given pressure of steam. To effect this, the internal pipes, through which the jet passes, are attached to a movable piston which, under varying pressures, regulates the size of the overflow apertures. The chamber is so arranged that the water usually wasted is conveyed to another part of the instrument, where it is drawn into the injection pipes and carried into the boiler.

Claim.—The use of the overflow *d d*, or its equivalent, in the Giffard injector, in combination with a reservoir to retain the overflow water in contact with the jet, for the purpose specified.

No. 49,446.—D. L. SHAW, Lansing, Iowa.—*Sad-iron Fixture.*—August 15, 1865.—This invention consists in the employment of a reflector, a heater, and stool in connection with a sad-iron, whereby the iron is kept in a heated state much longer than usual.

Claim.—The employment or use, in connection with a sad-iron A, of a reflector B, heater C, and a stool D, constructed substantially as shown and described, and used either separately or combined, for the purposes set forth.

No. 49,447.—S. J. SHERMAN, Brooklyn, N. Y.—*Hoop-skirt Joints.*—August 15, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—A skirt hoop, connected by a link C having a guard D, arranged substantially as and for the purposes herein specified.

No. 49,448.—WARREN A. SIMONDS, Boston, Mass.—*Apparatus for Carburetting Air.*—August 15, 1865.—This invention consists of a vessel containing the hydro-carbon liquid, and provided with pipes for the admission of air and the hydro-carbon liquid and for the escape of the carburetted air. In the upper part of the said vessel is arranged a revolving barrel-shaped drum, the diameter of which is larger in the centre than at the ends. Over this drum extends an endless band, provided with V-shaped buckets with serrated edges. When the apparatus is in operation the buckets are carried under the hydro-carbon liquid, and becoming filled with said liquid are raised to the upper part of the vessel, where the liquid is discharged in the form of spray.

Claim.—First, operating an oblong and endless belt, with buckets and troughs attached, independently and loosely over a pulley, the diameter of which is largest in the centre of its length, and which is made fast to a shaft, said shaft being operated with gears and weights below.

Second, adjusting a long oblong and endless belt, made from leather, metal, or other material, with buckets and troughs attached, so that the lower part, or about one-fourth to one-third of its length, shall be submerged in volatile liquors, such as hydro-carbon, as herein shown.

Third, a reservoir of any desired shape or position, whether perpendicular or horizontal, with a shaft and pulley upon the inside, above the centre and near the top of said reservoir, and with a long endless belt, with buckets or troughs, more or less in number, attached, and operated as above described.

No. 49,449.—WARREN A. SIMONDS, Boston, Mass.—*Apparatus for Regulating the Pressure and Delivery of Gas.*—August 15, 1865.—This invention consists of a holder, sliding in the annular space between the cylinders, the said holder being provided with a cap through which passes a rod connecting the chains, one of which passes around a pulley on the shaft, the said shaft operating a valve in the supply pipe. When the gas flows into the holder in sufficient quantity to raise it slightly, the valve is closed by means of the pulley and chain, shutting off the supply of gas until enough escapes from the holder to allow it to drop to its original position.

Claim.—First, in combination with the double cylinder B B′, the bell C, and the interior mechanism, or its equivalent, as shown, for the purpose specified.

Second, a double-cylinder reservoir, with two or more openings in and through the bottom for the inlet, others for outlet or outlets within the inside reservoir, in combination with the regulator valve, shown in figure 3, or its equivalent, as set forth.

Third, the construction of a floating reservoir, open at the bottom, but tight at the top, with a man-hole at its centre for connections from the inside and outside, the said reservoir to float in the outside reservoir and between the inside and outside cylinders, when used for the purposes herein described.

Fourth, connecting to the inlet opening upon the inside a plug or screw valve, with a reversible double pulley, to be operated by a cord, or cords, one end of which is connected upon the inside of the top of the floating holder, while on the end of said cords is a weight sufficient to reverse and open the cork or valve when the holder falls as specified.

Fifth, the arrangement of the pulleys in the cross-piece F, and the cord and weight, in combination with the floating holder for sustaining in part the weight of the holder, as specified.

No. 49,450.—WILLIAM H. SLONAKER, Cooperstown, Penn.—*Churn.*—August 15, 1865.—This invention consists in the combination of notched guides, a crank shaft, pitman rods, and turn buttons for fastening the guides.

Claim.—The arrangement of the notched guides *j j′*, in combination with a crank shaft C, pitman rod I *h*, turn button *i*, and churn box A, with supports B, substantially in the manner and for the purpose specified.

No. 49,451.—JOHN SMALL, St. Louis, Mo.—*Machine for Tempering Saws, Files, &c.*—August 15, 1865.—This invention consists of two vertical perforated plates, with narrow transverse ribs on their faces which are turned toward each other, one plate being fixed permanently to the ins ide of the tank, the other adjustable to or from it. Across the face of the stationary one, fixed in dovetailed grooves, are two vertical sliding standards, with hooks or projections on their upper ends, beneath which the article to be tempered is placed, when it is drawn down by means of suitable machinery.

Claim.—First, the arrangement of the vertical perforated jaws C C′, which are constructed with narrow ribs or elevations upon their surfaces, in combination with the bath tub A and the adjusting devices of one of the jaws, substantially in the manner and for the purposes herein described.

Second, the construction, arrangement, and operation of the adjustable hooks *g g*, in com bination with the jaws C C′, substantially in the manner and for the purposes described.

Third, the arrangement of the adjusting and bracing rods *b b′*, with the jaws C C′, hooks *g g*, bath tub A, and inner support A′, substantially in the manner and for the purposes described.

No. 49,452.—SAMUEL J. SMITH, New York, N. Y.—*Hand Stamp.*—August 15, 1865.—This invention consists of a movable bed, in combination with a hand stamp, so that the impression can be made against the movable portion of the bed or against a book or other article when the bed is removed. A ribbon holder is also employed with a carrier attached to, and adjustable on, the sliding rod that carries or forms the stamp.

Claim.—First, a movable bed, or section of the bed, in combination with a hand stamp, substantially as specified, whereby the impression can be made against the movable portion of the bed, or against a book, or other article, when the bed is removed, as set forth.

Second, a ribbon holder, a carrier attached to, and adjustable on, the sliding rod, that carries or forms the stamp, substantially as and for the purposes specified.

No. 49,453.—JAMES C. STARBUCK, Cambridge, Mass.—*Tree Protector.*—August 15, 1865.—This invention consists of a fluid-containing trough, situated at the upper end of a tubular support which rests upon the ground at its base.

Claim.—The tree protector, as made of a fluid-containing trough, placed upon a tubular stand, surrounding the trunk and supported from the ground, substantially as and for the purpose specified.

No. 49,454.—BYRON B. TAGGART, Watertown, N. Y.—*Apparatus for Making Paper Bags.*—August 15, 1865.—The peculiarity of this bag is that the fold in its bottom is such as to allow the bag to assume an oval form in its horizontal section, whereby the rectangular corners, where the bag is most liable to tear or break, are avoided.

Claim.—First, the method herein described of making paper bags or sacks.

Second, in the manufacture of paper bags, substantially as herein described, the use of the apparatus or implement, when constructed and arranged for operation, as hereinbefore set forth.

Third, as a new article of manufacture, a paper bag or sack, made in the manner and by the means hereinbefore set forth.

No. 49,455.—WILLIAM M. THOMAS, Binghamton, N. Y.—*Hay Rack for Wagons.*—August 15, 1865.—This invention consists in constructing a rack for wagons and carts in such a manner that it may be applied to and removed therefrom with great facility, and placed or stored away in a very small space when not in use.

Claim.—A rack for hay and grain having its several parts secured together in the manner substantially as shown and described, to admit of said parts being fitted together and taken apart and adjusted to the wagon and taken therefrom with the greatest facility, and also of being stowed away in compact form when not required for use.

No. 49,456.—S. D. TRIPP, Lynn, Mass.—*Shank Cutting Machine.*—August 15, 1865.—This invention consists of grooved and corrugated rollers, combined with an adjustable knife or cutter, having a zig-zag cutting edge.

Claim.—The grooved and toothed or corrugated rollers C C, in combination with the adjustable knife or cutter D, having a zig-zag cutting edge, all arranged to operate substantially in the manner as and for the purpose set forth.

No. 49,457.—ABRAM VAN DUSEN, Chicago, Ill.—*Brush.*—August 15, 1865.—This invention consists in forming a brush from whalebone cloth, by unravelling a portion of a long narrow strip of the cloth, leaving a margin of the cloth to be secured to a stock or handle by winding it around and fastening it thereto.

Claim.—A brush made by the employment of whalebone haircloth, and combined with any suitable material having a flange or knob, as above described.

No. 49,458.—JAMES T. WALKER, Palmyra, N. Y.—*Device for Cleaning Lamp Chimneys, Bottles, &c.*—August 15, 1865.—This invention consists of two wires inserted in a handle,

and twisted together for several inches, and then expanded. The wires are elastic, and act as springs; on the end of each is fastened a piece of sponge, or similar cleaning material, to be used in cleaning lamp chimneys, bottles, &c., inside.

Claim.—An instrument for cleaning lamp chimneys, bottles, &c., constructed substantially as herein shown and described.

No. 49,459.—JOHN WEHR, Roanoke, Ind.—*Machine for Cutting Harness Leather.*—August 15, 1865.—This invention consists of a series of bits, placed in an adjustable frame, and a series of guides, placed in a yielding frame, the parts being used in connection with a pressure roller, and all arranged in such a manner as to admit of leather being cut in rounded form to serve as filling for rounded or raised straps for harness.

Claim.—The yielding guides *c* and the adjustable bits or covers *b*, in combination with the pressure roller E, all arranged to operate substantially in the manner as and for the purpose herein set forth.

No. 49,460.—BENJAMIN WIELAND, Orangeville, Ill.—*Seeding Machine.*—August 15, 1865.—This invention consists in combining with a plough and seed hopper a laterally adjustable seed-distributor, moving on a rod and frame extending out at right angles from the sides of the machine.

Claim.—The combination of the plough beam B, the hopper E, and inclined vibrating seed receptacle P, when the parts are arranged with relation to each other, and provided with the accessory appurtenances herein described and represented.

No. 49,461.—MARTIN WILCOX, Sacramento, Cal.—*Steam Pump.*—August 15, 1865.—The novelty of this invention consists in the condenser, in combination with the receiver for exhausting the latter and discharging the uncondensed steam; and also in the combination and arrangement of a cylinder and its piston for working the steam gate, and a pendulum for regulating the motion of the gate.

Claim.—First, the condenser C, in combination with the receivers R, for exhausting the receiver and discharging uncondensed steam, constructed and operating substantially as set forth.

Second, the combination and arrangement of the cylinder and its piston for working the steam gate *g*, in the manner substantially as described.

Third, the combination of the pendulum *h*, for regulating the motion of the gate *g*, in the manner and substantially as described.

No. 49,462.—C. W. WILLARD, Chicago, Ill.—*Valve Gear for Steam Hammer.*—August 15, 1865.—This invention consists in the combination of a T-shaped lever, having adjustable dogs upon its upper and lower arms, with the steam valve and hammer, they being so arranged with reference to the tappet placed upon the cross-head of the engine that, by moving the dogs up or down upon the arms, the stroke of the piston, and consequently the force of the blow of the hammer, may be varied at pleasure.

Claim.—The T-shaped lever E and adjustable dogs *e*, in combination with the steam valve cylinder and hammer, all constructed and operating substantially in the manner and for the purpose set forth.

No. 49,463.—W. T. WILSON and HENRY FLATHER, Bridesburg, Penn.—*Breech-loading Fire-arm.*—August 15, 1865.—The hinged breech piece in this arm has a movable axis of vibration in being opened and closed, and the piston, moving in a line with the bore, operates against the base of the cartridge, and is locked by said breech piece. A link is caused to advance and retract the piston in line with the barrel during the opening and closing movements of the breech-piece, and enters the said grooves when the breech piece is closed.

Claim.—First, the hinged breech piece E, having a movable axis of vibration in being opened and closed, in combination with the piston C, which moves in line with the bore, operates against the base of the cartridge, and is locked by said breech piece, substantially as described.

Second, in combination with the piston C, having projections *c*2, for guiding it, by sliding in grooves, as described, the link *c'*, caused to advance and retract the piston in line with the barrel during the opening and closing movements of the breech piece E, and entering the grooves *f* when the breech piece is closed, for the purpose explained.

Third, the exploding pin C, having a knob or finger-piece G, when used for locking the breech piece, as set forth.

No. 49,464.—R. L. WINNER, Belvidere, Ill.—*Churn.*—August 15, 1865.—This invention consists in having the dashers attached to their rods by a joint or hinge, and having stops attached to the rods, all being arranged in such a manner that the dashers, when ascending or being forced down through the cream, will be kept in a longitudinal position, so as to act efficiently upon the cream, and when ascending, allowed to bend down, so as to offer but little resistance to the cream, and thereby admitting of the churn being operated with but moderate expenditure of power.

Claim.—The combination of the oblique stops K, with hinged dashers I and bars H, all constructed, arranged, and operating as specified.

No. 49,465.—F. R. WOLFINGER, Vermont, Ill.—*Swing.*—August 15, 1865.—The object of this invention is to produce a swing for infants to take the place of a cradle. Its motion is forward and backward, instead of in lateral directions, as in the motions of the cradle. The back and the foot-board are hinged, so that they can be raised and lowered, and they are, moreover, connected to cords, which cause their motions to be communicated to each other.

Claim.—An automatic domestic swing for infants, constructed and arranged substantially as above described, so that the seat and back move in correspondence with each other.

No. 49,466.—WILLIAM YAPP, Cleveland, Ohio.—*Eaves Trough Brackets.*—August 15, 1865.—This invention consists in fastening an eaves trough to buildings by means of a screw, and in fastening the eaves trough to the screw by means of a socket in the former, through which the latter passes, and by means of a copper fastener bent round the outer edge of the trough, passing down on the inside, up to the inner edge of the trough, and resting firmly against a lip on the under side of the socket before mentioned.

Claim.—The bracket A, arranged with a socket A, to receive the pin B, lip *b*, and metallic fastener F, substantially as and for the purpose set forth.

No. 49,467.—EDWIN BATTLEY, assignor to himself and JAMES CRANE, Mont Clair, N. J.—*Paint.*—August 15, 1865.—This invention consists in the use of creosote as a vehicle for paint, and also for making putty.

Claim.—The use of creosote as a vehicle for paint.

No. 49,468.—HENRY D. BLAKE, assignor to P. and F. CORBIN, New Britain, Conn.—*Padlock.*—August 15, 1865.—This invention consists in transversely dividing the casing of a padlock, having its links at both of its ends permanently attached thereto, and its link, at or near the centre of the same, into two parts or more sections, hinged together at their lower ends, upon the interior of which casing, and extending across it, a suitable hook is so hung and arranged that when the two parts composing the padlock are brought together they will be locked in such a manner as only to be opened with a properly shaped key.

Claim.—Dividing a padlock and its link into two parts or sections, hinged at one end and held and locked together by means of the spring hook *f*, or its equivalent, arranged and operating substantially in the manner described.

No. 49,469.—ELIJAH J. CALDWELL, assignor to himself and ALEXANDER M. LESLEY, New York, N. Y.—*Gas Stove.*—August 15, 1865.—In this invention the gas, flowing into a tube centrally located in a stove cylinder, and passing up through a wire sieve, placed at a little distance from the top, is burned at the perforations around the tube.

Claim.—The arrangement and combination with the cylinder A of the tube or cylinder F, sieve G, and perforated flanged top H, constructed and operating together substantially as and for the purposes specified.

No. 49,470.—LEWIS S. CHICHESTER, assignor to himself and C. W. MILLS, Brooklyn, N. Y.—*Grain Dryer.*—August 15, 1865; antedated August 11, 1865.—This invention consists of a series of tables inclined in alternate opposite directions, and placed together in a zigzag form, so as to have a space above the grain, between one table and the next, for the passage of a current of air; it also has a stationary support or bar placed across and above the inclined table to support the grain, and cause it to form a layer of nearly uniform thickness, and a series of dampers to regulate the flow of the current of air.

Claim.—First, a series of tables, inclined in alternate opposite directions, and placed together in a zigzag form, as specified, so as to leave a space above the grain between one table and the next for the passage of air, as set forth.

Second, a stationary support or bar placed across and above an inclined table to support the grain and cause it to form a layer of nearly uniform thickness, substantially as specified.

Third, the regulating dampers at the ends of the air spaces between the tables, in combination with a series of tables set together in a zigzag form, as specified.

Fourth, the hopper, formed with partitions standing at an inclination to each other, in combination with an inclined table for grain, as specified, whereby the grain is taken away from the lower edge of the said inclined table with uniformity, as set forth.

Fifth, an inclined table, to contain a layer of grain to be dried, and provided with a narrow space above and below said table, through which a current of heated air is passed, as and for the purposes specified.

No. 49,471.—JAMES FALLOWS, assignor to PORTER & BOOTH, Philadelphia, Penn.—*Sheet-metal Spoon.*—August 15, 1865.—This invention consists in forming the spoon of two pieces only; the bottom part of the handle, together with the bowl, comprising one piece, and the top part of the handle the other piece.

Claim.—A sheet-metal spoon constructed of two pieces of sheet metal, substantially as described and set forth, as an improved article of manufacture.

No. 49,472.—HORATIO FISKE, assignor to himself and ALFRED MORSE, Farnumsville, Mass.—*Let-off for Looms.*—August 15, 1865.—In this invention the increased tension of the

warp, acting through the yarn beam, causes, by means of gearing, a tubular worm gear shaft to be so moved as to overcome the pressure of a spring, and thus effect an engagement of the clutch wheel, which thereby causes the said shaft to be revolved by another shaft, which connects the let-off with the take up. The yarn delivery thus effected continues until the reacting power of the spring is so relieved as to restore the disengagement of the clutch wheels.

Claim.—The combination of the positive motion or mechanism for effecting the regular intermittent rotary motion of the cloth beam, such consisting of the shaft E, machinery for rotating in manner as described, the screw L, the worm gear M, the shaft N, the pinion O, and the gear P, or their mechanical equivalents, and the mechanism by which the yarn beam is caused to deliver warp, and to remain at rest under circumstances, as set forth, such being the clutch wheels *d e*, the shaft S, the worm T, the slider *g*, its retracting spring and standard, or their equivalents, the gear U, the shaft V, the pinion X, and the gear Y.

Also, the combination of the nut *l* and screw *m*, or their mechanical equivalent or equivalents, with the said positive motion or mechanism of the cloth beam, and with the said mechanism by which the yarn beam is caused to deliver warp and to remain at rest, under circumstances as set forth.

Also, the combination of the stationary tubular shaft F with the aforesaid positive motion or mechanism of the cloth beam, and with the said mechanism, by which the yarn beam is caused to deliver warp and remain at rest, under circumstances as set forth.

Also, in connection with the said positive motion or mechanism of the cloth beam, and with the aforesaid mechanism by which the yarn beam is caused to deliver warp and remain at rest, under circumstances as specified, the application of each or either of the worm gears to its shaft in such manner as to enable such worm gear not only to maintain its connection with the shaft, so as to be revolved by it, but also to be moved on its shaft relatively to its screw, in manner and for the purpose of disengaging the said worm gear and screw, as specified.

Also, the combination consisting of the clutch wheels *d e*, the shaft S, the worm T, the slider *g*, its retracting spring *k*, and standard *i*, the gear U, the shaft V, the pinion X, and the gear Y, or their equivalents, the whole being applied to the cloth beam, and operated by means and for the purpose substantially as above specified.

No. 49,473.—MICHAEL HICKEY, Boston, Mass., assignor to himself, EDWIN H. MAXWELL, Boston, Mass., and JOHN T. MCKNIGHT, New York, N. Y.—*Bungs for Casks.*—August 15, 1865.—This invention consists of a bung provided with an India-rubber packing ring and attached to a rod which has a screw cut on its lower end. The bung fits in the whole of the bung stave, the said hole having a shoulder for the bung to rest upon; and to the lower side of the bung stave is attached a loop, provided with a screw socket, into which the screw on the end of the rod fits, thereby fastening the bung securely in its place.

Claim.—A metal bung, with its ring *a* and its hoop H, formed, fitted, and secured to the stave, substantially in the manner and form and for the purposes set forth in this specification.

No. 49,474.—HENRY HOLDEN, assignor to himself and JOHN E. STOW, New York, N. Y.—*Torpedo.*—August 15, 1865.—This invention consists in a torpedo made of a plain sheet of paper or other absorbent material, which is wholly or partially saturated with a solution of fulminate of silver or of mercury in such a manner that, after drying, the fibres or pores are filled with fulminate, and a slight blow or pressure with a hard substance causes the same to explode with considerable noise.

Claim.—A torpedo made of a sheet of absorbent material, saturated wholly or partially with a solution of fulminate of silver or of mercury, substantially as and for the purpose set forth.

No. 49,475.—J. B. HYDE, Newark, N. J., assignor to the NEW YORK PIER AND WAREHOUSE COMPANY, New York, N. Y.—*Wharf, Pier, and Warehouse.*—August 15, 1865.—This invention consists in the combination of a pier, wharf, and warehouse; the pier having an open way beneath it for the flow of the water, being constructed on iron columns, and the wharf having a cart-way around it to facilitate loading and unloading vessels, delivery of freight, &c., from the warehouse.

Claim.—A combined wharf, pier, and iron base, substantially as described.

No. 49,476.—WILLIAM H. MALLORY, Bridgeport, Conn., assignor to himself, NELSON H. DOWNS, and ROBERT N. BASSETT, Derby, Conn.—*Spring for Upholstering Purposes.*—August 15, 1865.—This invention consists in the use of flat steel-wire of suitable length. The two ends are brought together and properly secured, so that a circle or hoop is formed. The two sides of the hoop are then secured together, forming two loops. The two loops are then secured together by a flexible fastening, thus forming altogether an effective spring for the purpose designed.

Claim.—A spring for upholstering and other purposes, constructed substantially as herein set forth.

No. 49,477.—WILLIAM MCCLAVE, Hyde Park, Penn., assignor to WILLIAM P. CONNELL and WILLIAM M. SILKMAN, Scranton, Penn.—*Miner's Lamp.*—August 15, 1865.—This invention consists in so forming the lamp as to insure its stability when attached to the hat of the miner, and the loss of oil occasioned by the swaying, tipping, and unsteadiness of the lamp is prevented.

Claim.—A miner's lamp, made substantially as herein shown and described.

No. 49,478.—JOHN MCMAHEL, assignor to himself and ABNER CORY, Hamilton, Ohio.—*Straw Cutter.*—August 15, 1865.—This invention consists in the use of a double-edged knife in combination with the crank wheels and slotted face-plate; also, in a novel arrangement of the feeding device, by which it feeds at every half revolution of the shaft.

Claim.—First, the arrangement of the knife G with its double-edge, in combination with the crank wheels H H and slotted face-plate P, to operate in the manner described, for the purpose specified.

Second, the combination of the feeding mechanism with the knife and crank wheels, whereby the feeding and severing of the material is effected alternately, and both at each half revolution of the shaft F, substantially as described.

No. 49,479.—WILLIAM W. POMEROY, assignor to himself and J. W. WILSON, East Hampton, Mass.—*Let-off for Looms.*—August 15, 1865.—In this invention, when the warp needs to be let off, the weight suspended by it, in rising, strikes the lever, and, by lifting it, releases the conical friction plug which restrains the yarn beam from revolving. The weight of the lever when undisturbed is sufficient to keep the plug tight in its conical socket at the end of the yarn beam.

Claim.—The conical socket or seat in the end of the warp beam, in combination with the sliding friction plug, elbow lever, and weight suspended from the bight in the warp, substantially in the manner and for the purpose set forth.

No. 49,480.—JULIUS AUGUSTUS ROTH, Philadelphia, Penn., assignor to JAMES B. BROWN, Peekskill, N. Y.—*Manufacture of Paper Pulp.*—August 15, 1865.—This invention consists in treating fibrous materials, such as wood, hemp, manilla grass, and other similar fibres, after the same have been reduced to small particles, with chlorine gas in a dry state and under continuous agitation.

Claim.—Treating fibrous materials, such as herein specified, after the same have been reduced into small particles, with chlorine gas in a dry state and under continuous agitation, produced by means substantially such as above described, or any other equivalent means, for the purposes set forth.

No. 49,481.—HENRY B. TYLER, assignor to himself and EUGENE M. PREVOST, Norwich, Conn.—*Lock.*—August 15, 1865.—In this lock the bolt is divided transversely at about the middle of its length, and to each section there is attached a spring which tends to thrust it forward. To the rear section is hinged a series of levers with hooks upon their opposite ends, which hook into notches formed in the forward section, and thus bind the two together. Springs connected with these levers tend constantly to depress them and disengage the hooks from the notches, and while they are so disengaged the bolt is locked out; but when the bolt is required to perform the function of a latch, the rear section is moved up by turning the knob spindle in the usual manner until it abuts against the other. A flat key is then inserted under the levers, which raises them up until their spurs enter the notches, and the levers are retained in that position by a cam, the axis of which projects outside the case, and is provided with a knob for turning it.

Claim.—Constructing the latch B of a door lock in two parts C and D, as described, which can be united or disconnected at pleasure, to serve the purposes of a latch or of a bolt, as desired, and operated in the manner and on the principle as here specified.

Also, the combination of the cam wheel or tumbler *g* with the connecting links or levers, substantially as described, for the purposes specified.

No. 49,482.—HENRY H. WARD, New York, N. Y., assignor to S. F. VAN CHOATE and STUART GWYNNE.—*Insulator for Telegraph Wires.*—August 15, 1865.—In this invention the wire is drawn into a plug of wood, which is surrounded by a cap or casing of metal in such a manner that an air space is left between the wood and the case. The construction of the case prevents moisture from entering, and thus the dry air forms an insulating medium.

Claim.—First, an insulator for telegraph wires, &c., provided with a dead air-chamber *d*, substantially as and for the purpose set forth.

Second, the combination of the plug A, cup C, and hook B, constructed and operating substantially as and for the purpose described.

No. 49,483.—GEORGE WOODS, Cambridge, Mass., assignor to MASON & HAMLIN, Boston, Mass.—*Musical Instrument.*—August 15, 1865.—The nature and object of this invention are set forth in the claim.

Claim.—First, in cabinet organs and other wind instruments, making the valve adjustable by supporting it or holding it to its valve seat, or to the surface of the reed board, by means of a hinged carrier extending the length of the valve and parallel, or nearly parallel, therewith, substantially as described.

Second, securing the valve against the face of the carrier piece E, so as to prevent lateral displacement by means of a pin *i*, substantially as described.

Third, so constructing and applying the valves in cabinet organs and other wind instruments, when they are supported by an outer piece, as here shown, that they can be removed by simply laying aside the spring which holds them up to their seats, and lifting the outer pieces E, or lifting the valve from such pieces, substantially as described.

No. 49,484.—ABRAM ALEXANDER, Pittsburg, Penn.—*Bolt Machine.*—August 15, 1865.—In this invention the bolt is made of square iron. The part forming the shank is drawn out and made round by means of four segmental rollers working together, leaving so much of the blank square as is required for the head. The blank is then transferred to dies having a socket of the form required for the head, into which a former is driven by the action of a drop hammer, and the head is formed. The dies then open, and the bolt is ejected by the action of a hammer striking against a rod communicating with the end of the bolt and knocking it out.

Claim.—The use of sector dies, operated and arranged substantially as described, for rounding the shank of the bolt previous to the heading.

Also, the combination of the sector dies or swages C, swage frame A, sliding frame *g g'*, for the purpose of rounding the shank of the bolt and leaving that part which is to form the head square, substantially as hereinbefore described.

Also, the combination of the drop hammer, gripping dies, and detached heading tool, constructed and arranged as substantially described, for the purpose of heading bolts while the iron is hot by a single stroke.

Also, delivering the finished bolt from the dies by means of the stroke of a hammer acting, in the manner substantially as hereinbefore described, on the end of the bolt.

Also, the use of the adjustable stop, to support the end of the bolt blank in the dies and regulate the depth of the round cavity of the dies to suit the required length of the shank of the bolt.

Also, the combination of dies K L, the clamp *j j'*, the drop *p'*, the heading tool *t'*, and hammers H, constructed, arranged, and operated substantially as described, for heading bolts.

No. 49,485.—HENRY OCEANUS COOK, London, England.—*Wind Wheel.*—August 15, 1865.—In this invention a wheel is formed of any number of wings, whose inner edges are parallel with the perpendicular axis of the wheel, and separate therefrom, so as to leave a space for the passage of wind to the next wing. The outer edge is inclined, so that the wings gradually increase in width from one end to the other, and are curved, so as to form part of a circle.

Claim.—A wind wheel, composed of wings or sails B, curved so as to form a portion of a circle, or a section of a scroll, in their horizontal section, and of taper form, longitudinally, as described.

Also, a space or opening between the edges of the wings or sails, when the latter are of the shape or form specified, for the purpose set forth.

No. 49,486.—JOHN HUTCHINGS COX, JOHN MURPHY, and WILLIAM MURPHY, Montreal, C. W.—*Spirit Metre.*—August 15, 1865.—This invention consists of an apparatus intended for the purpose of measuring alcoholic liquors, and particularly to control the quantity of liquor sold by distillers, manufacturers, or dealers, with the special view to enable tax collectors to get at true results without trouble or danger of being cheated.

Claim.—First, the combination with the revolving drum and pans of suitable tappets, acting on a weighted lever, and ratchets *o o'*, with detents *g g'*, all working together in the manner and for the purpose substantially us described.

Second, the sample cup *f* and sample receivers *h h*, in combination with the revolving drum and pans, constructed and operating substantially as and for the purpose set forth.

Third, the cistern *e*, applied in combination with the revolving drum, sample cup, sample receiver, and registering mechanism, constructed and operating substantially as and for the purpose specified.

Fourth, the siphon tube *a*3, with stop valve *f*3, and tilting tube *c*3, or its equivalent, in combination with the float *e'* and chamber *b*3, constructed and operating substantially as and for the purpose described.

No. 49,487.—ROBERT MUSHET, Cheltenham, England.—*Manufacture of Steel, &c.*—August 15, 1865.—This invention consists in combining titanium with iron while in a state of fusion. The ore, or oxide of titanium, whether simple or compound, is mixed with iron and placed into the melting pot, the whole being heated until the proper reaction takes place, thus producing steel, semi-steel, or homogeneous iron.

Claim.—Melting material or mixtures of materials, which, when melted, produce cast-steel, cast semi-steel, or cast homogeneous iron, together with carbonaceous matter, and simple or compound ores of titanium, oxides of titanium, or titanic acid, or other titanium compounds, or those substances deoxidized or partially deoxidized, in order to improve the quality of the said cast-steel, cast semi-steel, or homogeneous iron produced.

No. 49,488.—JACQUES WOTHLY, Paris, France, assignor to JOACHIM GOULART DA SILVEIRA, United States.—*Photographic Process.*—August 15, 1865; patented in England September 12, 1864.—This invention consists in substituting in the photographic process for the iodides, chlorides, or bromides of silver, a collodion, containing uranium, or a uranized collodion, so that, by the reductive properties of the uranium in the light, direct and distinct proofs are obtained by exposure to the light under the negative, and thereby the operation of developing the picture is saved, nothing more being required after the printing but to fix the picture in any suitable manner.

Claim.—The process above described for obtaining photographic proofs by means of photogenic substances, the preparation of which is described, said photographic proofs being obtained, as aforesaid, without the assistance of iodide, chloride, bromide of silver, and without development.

No. 49,489.—HENRY J. ADAMS, Leavenworth, Kan.—*Mode of Attaching Sashes to Window Cords.*—August 22, 1865.—This invention consists in the adjustment of the elevating cord of a window sash to the frame, by means of a hook, to the elongated end of which the rope is attached, a slot being cut in the sash, across which a metallic plate is fastened, and the hook is attached to the plate so as to be easily removed.

Claim.—The hook C, in combination with the plate B, constructed and operated substantially as and for the purpose specified.

No. 49,490.—JOSEPH ADAMS, Janesville, Wis.—*Washing Machine.*—August 22, 1865.—This invention consists of a lever frame, provided with a swinging frame having a roller and slats attached to it, in connection with a yielding concave slatted bottom, and a yielding slatted bearing frame.

Claim.—First, the lever frame B, provided with the pendent frame C, having a roller E at its lower end, and slats *g* and springs D bearing against it, substantially as and for the purpose specified.

Second, the yielding concave slatted frame F, in connection with the frames B C, substantially as and for the purpose set forth.

Third, the yielding slatted bearing frame H, in connection with the frames B C, for the purpose specified.

Fourth, the combination of the lever frame B, pendent frame C, slatted concave frame F, and bearing frame H, all arranged in connection with the suds box A, to operate substantially as and for the purpose set forth.

No. 49,491.—ETHAN ALLEN, Worcester, Mass.—*Breech-loading Fire-arm.*—August 22, 1865.—This invention relates to a double-barreled arm, provided with a hinged breech-block, which being turned to one side exposes both the chambers. A lever latch of peculiar form, set within the breech-block, and held in either its engaged or disengaged position by a small spring stud, serves to lock the said breech-block.

Claim.—First, the combination with the hinged breech D of a horizontally moving locking lever E, substantially as and for the purpose described.

Second, the combination with the rear of the locking lever E, of a self-adjusting stop or piston *f*, substantially as and for the purposes described.

No. 49,492.—S. L. AVERY, Norwich, N. Y.—*Tethering Apparatus.*—August 22, 1865.—This invention consists in the combination of a tethering line or rope with a weight, or a suitable spring acting as an equivalent therefor, a revolving beam and an upright post, for the purpose of giving an animal extended range in feeding while hitched to the post, and avoid all danger of an entanglement of the rope.

Claim.—A tethering apparatus, made substantially in the manner and for the purpose herein set forth.

No. 49,493.—L. W. BARGUET, New York, N. Y.—*Spittoon.*—August 22, 1865.—This invention consists in "striking up" the bowl of the spittoon of one piece of sheet metal in the form of a portion of a sphere, having a perfectly smooth inside surface, so that it can be readily and thoroughly cleaned, there being no seam or crevice to receive and retain the mucus, and other impurities of the spittoon.

Claim.—A spittoon, the body of which is made of one piece of metal, struck up into the form of a portion of a sphere, without seam or crevice, substantially as described and for the purpose set forth.

No. 49,494.—S. W. BARTHOLOMEW, Burr Oak, Mich.—*Stove-pipe Thimble.*—August 22, 1865.—This invention consists of three cylinders, one inside the other; the inner one fitting

on the stove-pipe. Through the spaces between the others, air circulates, the same entering at perforations made in the bottom plate by punching inwardly triangular lips, and similar perforations at the top between the series of lips.

Claim.—The stove-pipe thimble, composed of the annular heads A A, cylinders B C, perforations D E, lips *d e*, and intermediate cylinder F.

No. 49,495.—JULIUS BAUR, New York, N. Y.—*Manufacture of Steel.*—August 22, 1865.—This invention consists in combining chromium with the iron which is to be converted into steel. Five pounds of metallic chromium, and four ounces of charcoal, are added to one hundred pounds of puddled iron, and the whole melted together.

Claim.—First, combining metallic chromium with iron, for the purpose of producing or improving steel in crucibles, substantially in the manner set forth.

Second, combining metallic chromium with iron, for the purpose of producing or improving steel made by the pneumatic process, substantially in the manner set forth.

Third, a triple compound of iron, carbon, and chromium, substantially such as and for the purposes set forth.

No. 49,496.—MELLEN BRAY, Boston, Mass.—*Apparatus for Removing Hair from Hides* —August 22, 1865.—This invention consists of a cylinder having cast upon it helical screw blades, running from the middle of the cylinder to each end. Below this cylinder, which revolves upon a shaft, is another cylinder larger in diameter than the upper one, the shaft having its bearings in a frame. The two cylinders are caused to revolve by means of suitable gearing, the former revolving much faster than the latter; the latter may also be raised or lowered by means of cams on the shaft.

Claim.—First, a machine, organized for operation, substantially as described, for the automatic unhairing, striking, scouring, and currying of hides or skins, in the manner herein set forth, the same consisting substantially of the combination of a revolving cylinder and helical blades, with a support for the hide or skin, substantially as set forth.

Second, the construction of the revolving cylinder, substantially as and for operation hereinbefore described—that is to say, providing the same with a right and left-hand screw, substantially as set forth.

Third, the combination of a revolving screw cylinder with a revolving drum, when the two are geared to move at relative velocities, in the manner and for the purpose substantially as set forth.

Fourth, in combination with a revolving screw cylinder and a revolving feed drum, the pressure rollers, or their equivalents, for holding the skins or hides to the drum, substantially as herein described.

Fifth, in combination with the revolving screw cylinder and revolving feed drum, the arrangement for elevating and depressing the drum at pleasure, substantially as set forth.

Sixth, combining with the arrangement for elevating the drum to, and depressing it from, the screw cylinder, a friction clutch or other coupling device, in such manner that by lifting the drum the operative parts shall be thrown into gear, while by lowering it they shall be thrown out of gear, substantially as set forth.

No. 49,497.—C. R. BRINCKERHOFF, Rochester, N. Y.—*Harvesting Machine.*—August 22, 1865.—The bed frame in this machine is provided with hangers for the support of the axial shaft, and with lugs for the attachment of reel posts when the machine is to be used as a reaper. A detachable knee piece is also employed, having a projecting hanger-arm for the carrier wheel and stop.

Claim.—First, the bed frame A, constructed as shown and described, having the hangers *h* and *h'*, for the support of the axial shaft S, and the lugs *f* and *f'*, for the attachment of the reel posts, when the machine is to be used as a reaper.

Second, the detachable knee piece *k*, having the projecting hanger-arm *a* for the carrier wheel *w* and the stop *i*, all in the manner shown and for the purposes described.

No. 49,498.—J. M. BUTTERS, Lovel, Me.—*Clothes Dryer.*—August 22, 1865.—This invention consists in arranging the several bars around a centre-post, and hinged thereto, so that when opened or extended the bars will stand radially from the centre-post, and the outer ends of the bars be supported by a standard through which the bars pass.

Claim.—The combination of the centre-post A, bars B, and standard C, constructed and arranged in the manner substantially as and for the purpose specified.

No. 49,499.—JOHN CALDWELL, Sr., Chillicothe, Ohio.—*Vegetable Cutter.*—August 22, 1865.—This invention consists in inserting within the platform of the vegetable cutter over which the vegetables to be cut are passed, and in the direction of its length, a series of parallel vertical knives or blades, in connection with a horizontal transverse knife extending entirely across its width, in regard to which knife the platform can be adjusted at pleasure, so as to increase or decrease the opening between them.

Claim.—The arrangement of the platform *a* with its horizontal knife *h*, and removable knife block *s r*, the latter for optional use, in combination with the former, as described.

No. 49,500.—RUFUS CARTER, Jr., Lawrence, Mass.—*Folding Table or Bench.*—August 22, 1865.—This invention consists in so arranging the legs that they will fold under the table, and are held in an upright position by braces that slide through rollers in the legs.

Claim.—The combination of the top A, the plates C, the legs D, the roller E, and braces F, constructed substantially as herein set forth, for the purpose specified.

No. 49,501.—HEWETT CHANDLER, New Gloucester, Me.—*Harvesting Machine.*—August 22, 1865.—This invention relates to a mode of arranging or operating the sickle, whereby much friction is avoided, which generally attends the ordinary crank and connecting-rod mechanism employed for a sickle-driving medium. It also consists in a novel arrangement of parts for throwing the sickle-driving mechanism in and out of gear.

Claim.—The lip *c* on the axle C, resting in recesses *d* in the blocks *e*, and employed in combination with the lever O, to throw the pinions *i i* in and out of gear, as explained.

No. 49,502.—ROBERT A. CHESEBROUGH, New York, N. Y.—*Process for Purifying Coal Oil, &c.*—August 22, 1865.—This invention consists in filtering the heavy oil remaining after distillation of petroleum, through bone-black; or the crude petroleum, as it flows from the wells, may be purified by filtering through the bone-black without previous distillation.

Claim.—The use of bone-black for purifying petroleum or coal oil for filtration.

No. 49,503.—JOHN CHILCOTT, Brooklyn, N. Y.—*Oven for Cooking.*—August 22, 1865; antedated August 11, 1865.—This invention consists of an outer and inner shell, made of brick-work, or cast-iron, with an air space between divided into flues, through which products of combustion circulate back and forth, over and around the oven on three sides, to the exit pipe. In the central part of the apparatus are two or more compartments for cooking; between them is a horizontal hollow partition, which makes part of the system of circulation.

Claim.—First, the employment on all or several sides, under the bottom and over the top of an oven of a continuous system of flues, substantially as herein described, through which the gaseous products of combustion from the fire pass back and forth several times in contact with the exterior of the oven, before escaping to the chimney or take-up.

Second, the hollow partition C′, containing a series of flues *c c* forming part of the same continuous system with the flues at the top, bottom, and sides of the oven, substantially as herein described.

No. 49,504.—JOHN CHILCOTT, Brooklyn, N. Y.—*Heater.*—August 22, 1865; antedated August 15, 1865.—This invention consists of an air-heating chamber of iron or suitable material, enclosed within a double casing, forming an inner and outer shell of brick-work or iron, through which a continuous system of flues allow the heat and products of combustion, circulating back and forth, to pass once or more, completely around said chamber.

Claim.—First, surrounding the air-heating chamber of a stove or furnace with a continuous system of flues *b b*, substantially as herein described, in which the gaseous products of combustion are caused to circulate continuously twice or more times around the said chamber, before passing to the chimney, substantially as herein set forth.

Second, in combination with the continuous system of flues *b* surrounding the sides of the air-heating chamber, the continuous system of flues *c j k l m′* under, through the interior of, and above the said chamber, substantially as herein described.

No. 49,505.—OWEN COLLINS, New York, N. Y.—*Apparatus for Making Illuminating Gas.*—August 22, 1865.—This invention consists of a fire chamber surrounded by an annular chamber, for vaporizing the mixture of water and hydro-carbons. The annular chamber communicates with a receiver, which latter communicates with a retort, in which the vapor is decomposed; the gas then passes through a series of purifiers and into the gas holder.

Claim.—First, constructing or providing an apparatus for making illuminating gas from liquid substances with an annular evaporator B surrounding the furnace, substantially as herein specified.

Second, the annular retort F, having a conical bottom and top, as herein specified.

Third, the combination and arrangement of the cylindrical annular evaporator B, the conical annular retort F, the deflector L and L2, and the cylinder V, substantially as herein specified.

No. 49,506.—JOHN S. DAVIS, Tiffin, Ohio.—*Harvesting Machine.*—August 22, 1865.—This invention does not admit of a brief description. The claim indicates the nature of the improvements.

Claim.—First, securing the finger-beam of the cutting apparatus to the hinged tongue or draught pole of the machine, substantially as described.

Second, adapting a hinged draught pole or tongue to serve as a support and means of attachment for the cutting apparatus of a harvesting machine, substantially as described.

Third, hinging the tongue to the machine in such a manner that it is allowed to oscillate laterally, and admit of the rising and falling motions of the outer edge of the cutting apparatus, substantially as described.

Fourth, providing for sustaining the tongue G at its rear end in an elevated position, in combination with the contrivances adapted for elevating and lowering said tongue, substantially as described.

Fifth, extending the rear portion of the tongue G, beneath the axle B, in combination with hinging this tongue to the platform C, substantially as described.

Sixth, the combination of the laterally oscillating tongue G and plate E, with the hinged platform C, substantially as described.

Seventh, sustaining the forward end of the crank shaft C′ by means of the platform C, and its rear end by means of the rear extension of the tongue G, substantially as described.

Eighth, the segment *o* applied to a rocking tongue G, substantially as described.

Ninth, the friction roller S applied to an oscillating tongue G, substantially as described.

Tenth, the articulating platform C, applied between the axle B and laterally oscillating tongue G, substantially as and for the purpose described.

Eleventh, supporting the crank shaft C′ of a harvesting machine in oscillating bearings, and arranging these bearings in such a manner that the tongue is free to move up or down at its rear, and also to operate laterally without cramping the crank shaft or its drawing gear, substantially as described.

Twelfth, interposing a wedge *w* between the inner extension F′ of the finger-beam and the tongue G, for the purpose substantially as described.

No. 49,507.—DANIEL R. RAY and JOHN G. FOLSOM, Winchendon, Mass.—*Jack Spools.*—August 22, 1865.—The object of this invention is to allow the heads of the spools to be taken off; and also to obviate their becoming loose by shrinking of the wood while on.

Claim.—The hard wood plugs *a a* put into the shaft A, in combination with the screw-cap flange C, outside plate E, and journals F *f*, as herein described, for the purposes set forth.

No. 49,508.—ELIAS HASKET DERBY, Boston, Mass., and TRUE WEST, Roxbury, Mass.—*Railway Car.*—August 22, 1865.—This invention consists in the construction of railway carriages in such a manner that a recess is formed in either or both ends of the car, upon the platform; and in such recess are steps and hand rails to enable persons to climb upon the roof of a car through a hatchway.

Claim.—The railway carriage as constructed with a niche or recess B in either or each of its ends, and with steps *d d* and hand holders *c c* arranged within or applied to such recess, substantially as and for the purpose described.

Also, the combination of the seat *c*, in the recess or at its base, with such recess, and the series of steps and hand holders when applied together and to a railway carriage, substantially as described.

Also, the combination and arrangement of the hatchway, or the same and its hatch or door in the roof, with the niche or recess, its steps and hand holders, arranged in the body of the carriage, substantially as stated.

No. 49,509.—PATRICK S. DEVLAN, Jersey City, N. J.—*Composition for Lining Journal Boxes, &c.*—August 22, 1865.—This invention consists of a compound of lime, plumbago, silicate of soda or potassa, and a fibrous substance.

Claim.—The compound substantially as herein described, consisting of prepared lime, plumbago, silicate of soda or potassa, and fibrous substance, whether vegetable, animal, or mineral, as described.

No. 49,510.—DAVIS H. DOTTERER, Philadelphia, Penn.—*Railway Car Truck.*—August 22, 1865.—This invention consists in the employment of vertically-adjustable braces in conjunction with diagonal trussed braces for the purpose of sustaining the car body and counteracting all sagging of the parts.

Claim.—The combination of beams B and D, trussed braces E E, and vertically-adjustable suspension rods *g g*, substantially as described.

No. 49,511.—SAMUEL R. DUMMER, New York, N. Y.—*Hinge.*—August 22, 1865.—This invention consists in suspending by a pivot to that part of the hinge which is fastened to the jamb, near the top, a bolt so as to have a swinging motion, and projecting a little below the hinge. From the bottom of the hinge and projecting at right angles to the bolt are two lugs, one on each wing of the hinge, and so arranged that when the hinge is swung open the two lugs form a recess into which the bolt drops and fastens the hinge open.

Claim.—The hinge bolt *g*, constructed and applied substantially as and for the purposes set forth

No. 49,512.—G. EKSTRAND and A. P. CASSEL, Wataga, Ill.—*Cultivator.*—August 22, 1865.—In this invention the bars sustaining the plough beams pass through slots in the axle-tree and are fastened above to a parallel bar, and are adjustable upon this bar. The bar raises and brings the ploughs from the earth by turning two set screws at each end.

Claim.—The adjustable bar G having the plough beams I I L L connected to it by the bars P R and the bars R, connected at their upper ends by a bar S, all being arranged and applied to a mounted framing, to operate in the manner substantially as and for the purpose set forth.

No. 49,513.—WILLIAM ELWELL, Gardiner, Me.—*Earth Pulverizer.*—August 22, 1865.—This invention consists in securing on the bottom of a drag or other suitable device or machine having a flat bottom, a number of triangular-shaped strips, either metal or wood, which, while the machine is being drawn along, will strike against the lumps of earth and pulverize the same, as well as cover the seed after it has been sown.

Claim.—The angular strips D, constructed and arranged substantially as described, in combination with a suitable machine that will admit their application, in the manner and for the purpose herein specified.

No. 49,514.—GEORGE M. FAY, Eureka, Cal.—*Centre Board.*—August 22, 1865.—This invention consists in the application of two parallel-hinged bars to a centre board, in such a manner that said centre board rises and falls parallelly, and when it is lowered the full width of the centre-board is brought into action.

Claim.—The combination of the centre board A, constructed with a shoulder or projecting end *e*, the parallel bars B B and the case *c*, within which the board fits, all constructed and arranged to operate as specified.

No. 49,515.—HENRY GEILHAUSEN, New York, N. Y.—*Candy Cigar Machine.*—August 22, 1865.—This invention consists in the use of two rollers. each of which is provided with a series of semi-cylindrical cavities or flutes, each representing the shape of one-half of a candy cigar, in combination with a suitable feed table, and with end cutters working in annular grooves in both ends of the rollers in such a manner that by gearing the two rollers together, and feeding the candy paste through between them, a large number of candy cigars are produced in a short time, all perfectly uniform and in proper shape.

Claim.—The end cutter *c*, applied in combination with the rollers B B, which are provided with cavities *a*, and with the feed table D, substantially as and for the purpose set forth.

No. 49,516.—R. W. GEORGE, Boston, Mass.—*Wood-turning Lathe.*—August 22, 1865.—The object of this invention is to turn handles for brooms and like stuff in a straight line, curved or irregular in form, and it consists of a framing, upon which is a feed box, in which the stock to be turned, is fed to a cutter by a sliding plunger, which is operated by crank motion of such length as that the plunger will feed the whole length of the handle at one revolution of the crank, after passing through the hollow revolving cutter, and as the feed plunger is returning to feed the next blank, the first passes into revolving heads, with elastic feed blocks, which holds the wood from turning in the head block; but not firm enough to prevent its being fed through, to be presented to the finishing cutters that are placed on frames operated by a cam, so as to articulate at the right time to give the stock the shape desired.

Claim.—First, the yielding friction clamps or springs, arranged around the bore or axis of the lathe head for the purpose of rotating the rounded stock as it is forced through the head against the cutter or cutters, substantially as described.

Second, the intermittent or reciprocating feed plate E and pattern *z*, in combination with the sliding cutter or cutters *i* and lathe head V V′, constructed and operating substantially as described.

Third, the hinged plate A′, provided with one or more adjustable cutters J, in combination with the cam *l*, intermittent or reciprocating feed plate E and lathe head V V′, substantially as set forth and for the purpose described.

Fourth, the combination and arrangement of the hopper D, hollow auger Q, lathe head V V′, and self-adjusting cutters *i* and *j*, substantially as set forth and for the purpose described.

No. 49,517.—ELI B. GIBBUD, Waterbury, Conn.—*Tinman's Furnace.*—August 22, 1865.—This invention consists in the combination of the soldering furnace and iron, in such manner that the iron is not taken out of the fire, but the work held up to and moved along the point of the iron.

Claim.—The furnace, in combination with the copper D, when they are constructed, arranged, and fitted for use substantially as herein described.

No. 49,518.—HENRY W. GRAY, Camden, N. J., assignor to ANTHONY GUNTHER, Philadelphia, Penn.—*Method of Utilizing Waste Whiting.*—August 22, 1865.—This invention consists in drying, grinding, and pulverizing the waste whiting used in the manufacture of mineral water, and using it in the manufacture of paper, gilding, putty, tooth-powder, &c.

Claim.—The use and application of the refuse of whiting that has been used in the process of making mineral water, substantially as herein set forth.

No. 49,519.—JOHN T. HAGERTY, Camp Point, Ill.—*Washing Machine Wringer.*—August 22, 1865.—This invention will be readily understood by reference to the claim and engraving.

Claim.—Suspending the arms G, with the bed of concave rollers E, by four or more elastic springs H, as herein described and for the purposes set forth.

No. 49,520.—G. J. HENDRICKS, Paris, Penn.—*Sheep Rack.*—August 22, 1865.—This invention consists in attaching grain troughs to the outside of the rack in such a manner that they can be swung over the top out of the way of the sheep while feeding on hay, and brought down to the desired position when needed for feeding grain.

Claim.—A sheep feeding rack, constructed with one or more troughs B′ B′ on its outside, said troughs being hinged by arms *b′ b′*, so as to be adjusted to the positions shown in Figs. 3 and 4 of the drawings, substantially as and for the purpose set forth.

No. 49,521.—J. J. HILL, Xenia, Ohio.—*Potato Digger.*—August 22, 1865.—This invention consists in the combination and arrangement of a front roller and shovel with the usual devices pertaining to a potato digger.

Claim.—The combination of the roller E with the shovel F, operating in the manner described and for the purpose set forth.

Second, the combination of roller E and shovel F with grated shovel G, toothed cylinder I, and receiving box J, operating conjointly in the manner substantially as described, and for the purpose set fort.

No. 49,522.—JOHN Q. HILL, Worcester, Mass.—*Funnel.*—August 22, 1865.—In this invention to the upper half of a funnel is secured by solder, or otherwise, a collar having cut on its outer lower edge a screw thread. On the lower half is secured in like manner a socket piece, provided with a shoulder on its inner periphery, upon which rests a strainer; the parts are screwed together and form a funnel of the usual shape.

Claim.—The parts A B C and D, in combination with each other and the removable strainer *a*, substantially as shown and described.

No. 49,523.—CHARLES HOWLETT, Manchester, Conn.—*Revolving Cartridge Box.*—August 22, 1865.—This invention is designed for holding the tubular magazines of magazine fire-arms, and consists of a cylindrical metallic case, having a nozzle at one end, and containing a series of revolving chambers, separated by radial partitions for receiving the cartridge tubes, and capable of being successively brought in line with the discharging nozzle. The revolving chambers are provided at their bottoms or toward the centre with elastic strips for pressing the cartridge tubes outward against the cylindrical case, and into the channel formed by the continuation of the discharging nozzle.

Claim.—The construction of the tubular receptacles formed by the radial ribs E E, with their elastic strips F, arranged with the raised tube B and shut-off C, substantially as described and for the purposes set forth.

No. 49,524.—W. W. HUBBARD, Philadelphia, Penn.—*Machine for Cutting Threads on Bolts.*—August 22, 1865.—In this machine a sliding carriage is arranged with an adjustable holder that receives the head of the bolt, and holds it in line with the centre of the axis of the cutters; it is then shoved forward by the operator until the cutters take hold of the end of the shanks of the bolt to cut the thread; when the thread has been cut far enough on the bolt, it strikes against the end of a sliding pin in the centre of the shaft, which carries the cutters, and forces the pin against the sliding sleeve, to which the ends of the levers upon which the cutters are fastened are connected by toggle joints, and drives the sleeve in the direction to open the cutters and release the bolt, when a weight connected by a cord to the sliding carriage over a pulley draws it back to its original position, when the finished bolt is taken out by the operator, and another blank put in; when the carriage is being drawn back by the weight it strikes the bent end of an arm which is connected with the sliding sleeve, and draws it in the direction to force the cutters into position to operate upon the next blank.

Claim.—The weight M or its equivalent, combined with the carriage I and head C, with its levers and cutters, so that the carriage shall be moved away from the head as soon as the cutters are raised from the bolt, substantially as described.

Second, the screw-cutting dies P, connected to the levers D, and rendered adjustable thereon by the key *s*, gib *r*, and set screw *h*, as set forth.

Third, the adjustable holder N, its recesses *u*, and set screws *m* and *n′*, the whole being constructed and arranged as set forth.

No. 49,525.—S. D. INGRAM, Harrisburg, Penn.—*Adjustable Fastening for a Reflector.*—August 22, 1865.—This device consists of an arm which carries a reflector, and has a vertical movement through a slide, and also a horizontal motion upon an arm by which the reflector may be adjusted to any convenient position.

Claim.—A compound adjustable reflector for lights, consisting of the arm D, carrying the reflector E, having a vertical movement through slide *c*, and a horizontal one along arm A, constructed and operating in the manner set forth.

No. 49,526.—JOHN H. IRWIN, Chicago, Ill.—*Apparatus for Carburetting Air.*—August 22, 1865.—This invention consists of a vertical cylindrical case provided at its upper end with a fan wheel, which is attached to a shaft, the upper end of which passes through a cyl-

indrical case; the portion of the shaft inside of the case has attached to it a series of fan blades. The wheel is put in motion by means of a current of heated air produced by burners; or the lower end of the shaft may be provided with a gear wheel, which is put in motion by a wheel attached to a caloric engine. The current of air produced by the blades passes through the tube into the carburetter, and after being charged with hydrocarbon vapor, escapes at the burners.

Claim.—The arrangement of an engine or machine operated by heated air, with an air pump or other device for producing a current of air, and a carburetting apparatus, arranged and operating substantially as and for the purposes specified and shown.

Second, in combination with the carburetter, the employment of an engine or machine operated by heated air produced by the combination of carburetted air, and a suitable device for producing a current of air through the carburetter, arranged and operating substantially as shown and described.

No. 49,527.—NATHANIEL JENKINS, Boston, Mass.—*Faucet.*—August 22, 1865.—In this invention the flow is stopped by a solid valve of vulcanized rubber. To open the port the valve is compressed upward by a cam movement; the degree of pressure may be modified by partially screwing or unscrewing the cap of the faucet on which the cam has its bearing.

Claim.—The compressible elastic body E, in combination with the valve seat L, cap D, and valve lifter F of a faucet, the said body being so constructed and arranged as to answer the threefold purpose of a spring, a packing for the cap, and a valve, substantially as described.

No. 49,528.—GEORGE B. JEWETT, Salem, Mass.—*Artificial Leg.*—August 22, 1865.—This invention relates to an improvement in the construction of the knee-joint, by which the lower leg is enabled to be bent into an acute angle with the thigh.

Claim.—The combination and arrangement of the hanger *g* and the two struts or posts *h h* with the thigh-socket frame A and the leg bar or column B.

Also, the combination and arrangement of the knee-piece or block *b* with the thigh-socket frame, the hanger *g*, and the two struts *h h*.

Also, the arrangement of the cushion *d* and the flat base *c*, or its equivalent, with the column B, the thigh-socket frame A, the hanger *g*, and the struts *h h*, the whole being substantially as specified.

No. 49,529.—GEORGE B. JEWETT, Salem, Mass.—*Artificial Leg.*—August 22, 1865.—This invention does not admit of a brief description. Its nature will be understood from the claim.

Claim.—The improved ankle joint made with the screw pin K, its holding standards *h h*, encompassing tube G, and the oil chamber, arranged within the pin and provided with a discharging opening *h*, as explained.

Also, the combination and arrangement of the cap screw *g* with the ankle joint, as constructed, substantially as hereinbefore described.

Also, the combination of the shoulder or flange *c* with the auxiliary socket C.

Also, the combination of the raised projection of the top of the rigid socket with the auxiliary socket and its flange or shoulder, the same being for the purpose explained.

Also, the construction of the auxiliary socket C with the opening *a*, or the same and the tongue *b*, arranged as set forth.

Also, the auxiliary or soft socket, as made with the shoulder or flange *c*, the opening *a*, and the flap or tongue *b*, arranged substantially as described.

No. 49,530.—J. HERVA JONES, Rockton, Ill.—*Harvester Rake.*—August 22, 1865.—This invention consists in providing the platform at any convenient point with an extension, which is furnished with a groove or slot corresponding in shape with the platform. On this extension, outside the groove, is placed a turning or rocking post, on which the jointed rake stale is mounted, the said rake stale being connected by a pitman or link to a swivelling wrist on a link pivoted to a crank arm which rotates on a vertical shaft located within the grooved path. The wrist is allowed by its link connection to the shaft to vary its distance therefrom and to traverse the groove, imparting, through its connections above recited, a corresponding movement of the rake. A spring stop, preventing the jointed arms of the rake from coming together, and a coil-spring, holding the rake to its work, are placed at the joints in the stale.

Claim.—First, the combination of the jointed rake stale, the link rod or pitman, and the cam guide, substantially in the manner described, for the purpose of causing the rake to traverse in a path the counterpart of the cam groove, as set forth.

Second, the stop *c* arranged and operating substantially as described.

Third, the combination with the arms B C of a spring *b*, substantially as and for the purpose described.

No. 49,531.—SAMUEL R. JONES, New Haven, Conn.—*Photographic Printing Frame.*—August 22, 1865.—This invention consists of a spring frame with intermediate bands to be

used in connection with the frame in which the negative plate from which photographic pictures are printed is placed. This spring frame is used to secure the prepared paper against the negative plate, and in addition thereto a thin board is used for the same purpose.

Claim.—The spring frame D, and intermediate bands *c c*, in combination with the board C, substantially as herein described and for the purpose set forth.

No. 49,532.—EDWARD KAYLOR, Pittsburg, Penn.—*Bolt Machine.*—August 22, 1865.—This invention consists in the arrangement of adjustable cutters independently of the dies, so as to cut the blanks of any desired length; the cutter which represents the stationary one is secured to a slide placed in front of the dies and is adjusted by means of a screw, the other being made to move upon the lever which operates it to cut the bolt, and is secured at any desired point by a set screw.

Claim.—The use in bolt machines of detached cutters *m m* placed in front of and susceptible of adjustment to and from the face of the griping dies, in combination with the screw *o* and slide *v* for adjusting the lower cutter and the lever *k* and loop *t* for operating and adjusting the upper cutter, substantially as described, for the purpose of cutting off the blank to make any desired length of bolt, without requiring any change of the dies.

No. 49,533.—BENJAMIN H. KEPNER, Nora, Ill.—*Threshing Machine.*—August 22, 1865.—This invention consists in making the machine of several parts that adjust to each other. By using certain portions a thresher is formed; and substituting in place of one of these portions two others a huller is formed. The cost of two separate machines is thus saved.

Claim.—The combination and arrangement of the parts 5 and 6, for hulling and cleaning cloverseed, with the parts 1 2 3 and 4 of a grain thresher and straw separator, parts 2 and 4 and 5 and 6 being interchangeable, to constitute a convertible machine, which may be readily and economically adapted to either purpose, said parts being arranged and operating substantially as set forth.

Also, the combination and arrangement of the boards *q* and *s* of the feed-board O and transverse inclined board S, with the cylinder A, operating substantially as and for the purposes specified.

No. 49,534.—JOEL KINDLEY, Oskaloosa, Iowa.—*Sorghum Evaporator.*—August 22, 1865.—This invention will be readily understood by reference to the claim and engraving.

Claim.—The divisions D, which are moved in the manner and for the purpose described consecutively along the pan and out at open end.

No. 49,535.—WILLIAM M. KNIGHT and JONATHAN H. ORNE, Marblehead, Mass.—*Hook.*—August 22, 1865.—This invention consists in forming a recess in the hook upon its inner surface, and in attaching to the hook, near its point, the extremity of a spring, so shaped and connected that it may be pressed into said recess to permit the passage of the hook through the staple, but which, the moment it has passed through, will spring out, and, setting against the lower surface of the staple, will prevent the withdrawal of the hook.

Claim.—The application to a common hook of a spring, which will allow the hook easily to pass into the staple, but will prevent it from being withdrawn therefrom without the application of lateral pressure upon the spring, substantially as herein described.

No. 49,536.—EZRA B. LAKE, Bridgeport, N. J.—*Railroad Switch.*—August 22, 1865.—This invention consists in a construction and arrangement of a railroad switch, whereby it may be operated by the locomotive when in motion, and all accidental moving of the switch prevented.

Claim.—The levers E E′, block F, and arms H H, connected by the bar G, all arranged in connection with the switch and the rails of the branch and main tracks, to operate in the manner substantially as and for the purpose set forth.

No. 49,537.—CHARLES L. LAURENCE, New York, N. Y.—*Manufacture of Floor Cloths.*—August 22, 1865.—The nature of this invention is explained by the claim.

Claim.—The combination, by the process hereinbefore detailed, of India-rubber and cork dust; also the use of the horizontal quick-running iron or hard wood rolls, as above described, in the said process; also the attachment to the sheets of compound of the fabric above mentioned to the surfaces thereof; and also the application of the steam and fire heat to the sheets in the process above described.

No. 49,538.—JOHN MATTHEWS, Jr., New York, N. Y.—*Machine for Washing Bottles.*—August 22, 1865.—This invention consists of a suitable frame and a cup, in which a bottle is inserted in an inverted position, into which water is injected through a flexible tube, the flow of which being regulated by a portion of the frame and a suitable spring.

Claim.—First, the combination of the stationary base A, having an attached water pipe and nozzle *g*, and the vibrating frame C, carrying a receptacle E for the bottle, and having connected with it a device for opening and closing the said water pipe, the whole operating substantially as herein specified.

Second, the combination of the fixed nozzle *g* and the movable cup E, having an attached tube F and fixtures *u*, substantially as herein described.

Third, the elastic tube B, spring *m*, and cross-piece *q*, in combination with the base A and vibrating frame C, substantially as and for the purpose herein set forth.

Fourth, the combination with the base A, vibrating frame C, cross-piece *q*, movable spring *m*, and adjustable set screw D, of the two or more tapped cross-bars *k*1 *k*2 *k*3, and cups *n*1 *n*2 *n*3, substantially as and for the purpose herein specified.

No. 49,539.—JOHN MAYER, Philadelphia, Penn.—*Combined Rotating Fountain and Seat for Barbers' Shops.*—August 22, 1865.—This invention consists of a rotating fountain or isolated stand, in form like an inverted spinning top, provided with recesses around its outer side containing water basins, over which are spouts and waste pipes, and provided with mirrors between said recesses. There is also a rotating base, with arms extending outward, on which chairs are placed, said arms being movable outward and inward; sitters have thus no need of changing seats while being shaved, shampooed, or having their hair dressed.

Claim.—First, the fixed central fountain or isolated stand A, the same being constructed substantially in the inverted top form shown, and also provided with the recesses *a'*, basins *a*2, water supply spouts *a*4, connecting with supply pipes passing up through the stand to the same, and the waste pipes passing down through the stand from the said basins, all as described and set forth for the purpose specified.

Second, the combined arrangement of a stationary central fountain A with a rotary platform B, provided with radially-moving seats D, the whole being constructed so as to operate together substantially in the manner described and set forth, for the purposes specified.

No. 49,540.—EZRA MCEWEN, New Lisbon, Ill.—*Cultivator.*—August 22, 1865.—This invention consists in a novel combination of the handles with the plough beams, and also with supplementary beams. By removing the supplementary plough beams and a cross-bar from the rear the cultivator will pass over the corn when quite high.

Claim.—First, the combination and arrangement of the draught pole E, the plough beams *a a*, the cross-bar *b*, provided with the slots *b b*, cross-bar *c*, beams *d d*, shares *m n*, and handles, as and for the purposes specified.

Second, the combination and arrangement of the plough beams *a a*, cross-bar *b*, slotted, as shown, handles *h*, connecting strips *e e*, and shares *m n*, as shown in Fig. 3, substantially as shown and set forth.

No. 49,541.—W. C. MCGILL, Cincinnati, Ohio.—*Sash Supporter.*—August 22, 1865.—In this invention a pair of rubber rollers are secured to the top of the lower sash upon each side so as to bear against the frame of the upper sash, and are arranged so that the pressure may be regulated by set screws.

Claim.—A friction roller, made of rubber or other elastic substance, in combination with screw bolt D, and movable plate G, and frame F, to regulate the same at will, operating as and for the purpose specified.

No. 49,542.—JOHN H. MERRILL, Norwalk, Conn.—*Match Igniter.*—August 22, 1865.—The materials of which this match igniter is composed are clay and sand. These ingredients are mixed in equal parts with water, and then fashioned or moulded like pottery or earthen ware into any desired form, and then baked in an oven.

Claim.—As an improved article of manufacture a match igniter, made as herein described.

No. 49,543.—JAMES MURDOCK and WILLIAM W. SPENCER, Cincinnati, Ohio.—*Baggage Check.*—August 22, 1865.—This invention consists in stamping or engraving both faces on one side of a single strip of metal, which is then bent backward upon its obverse surfaces and secured by a rivet or otherwise.

Claim.—First, the mode of forming a baggage check by stamping or engraving both faces on one side of a single strip A of metal, which is then bent backward upon its obverse surfaces, and secured by rivet B, or its equivalent, substantially as set forth.

Second, the baggage check, composed of the reflexed double-faced strip A and strap C, both secured by the same rivet or rivets, substantially as set forth.

No. 49,544.—C. L. NOE, Bergen Point, N. J.—*Packing for Oil-well Tubes.*—August 22, 1865.—In this invention two metal collars are arranged to fit easily around the pump tube and within the well. A duplicate leather hose is secured within and without one of these collars above and below; flaxseed, tallow, or an equivalent substance, is placed between the leathers of the hose. A cord, attached to small rings in the upper collar, serves to elevate and lower the whole apparatus; another cord attached to the upper collar, thence passing down through loops in the lower collar, and thence up through holes in the upper collar to the top of the well, serves to draw the lower collar toward the upper, and thus to expand the packing.

Claim.—First, the two flanges *a b*, with the pins and holes therein contained, or their equivalents, in combination with the cord *e e* and the two leather cylinders, with a stuffing contained between them, operating and for the purpose substantially as herein described.

Second, the application and arrangement of the cord or rope *j j* and eyes *i i*, with the seed bag, as herein described.

No. 49,545.—H. H. OLDS, New Haven, Conn.—*Carriage Spring.*—August 22, 1865.—This invention consists in the use of two cross-arms, provided at their ends with hinged caps, which enclose blocks of India-rubber, or other elastic material, and which are connected by longitudinal rails in such a manner that, by placing a weight upon said rails, the elastic blocks are compressed between the caps and the edges of the rails, and a spring is obtained which is strong, durable, and admits of considerable play.

Claim.—A spring, composed of cross-arms A A, hinged caps B, and elastic blocks D, connected together substantially in the manner and for the purposes set forth.

No. 49,546.—ANDREW O'NEILL, Portsmouth, Ohio.—*Sheet-metal Boiler.*—August 22, 1865.—This invention consists in striking up the copper part of the boiler with a shoulder to rest upon the stove, and a continuation upward, ending with a flange for uniting it with the tin, far enough above the stove not to expose the tin to too much heat.

Claim.—A sheet-metal boiling vessel, whose bottom is struck or stamped with a pit or drop, a seamless shoulder, and an elevated margin.

No. 49,547.—JOHN G. PAGE, Rockford, Ill.—*Cultivator.*—August 22, 1865.—In this machine two draught poles, with a double neck yoke, are used. The tops of the plough beams are connected by two semicircular metallic bars, and a hand lever moves the rear frame of the draught poles laterally in order to guide the machine.

Claim.—First, in combination with a cultivating machine for cultivating two rows, the employment of the two shaft poles D D, arranged and operating substantially as and for the purposes herein specified and shown.

Second, in combination with a cultivator, arranged so as to cultivate two rows at once, the arrangement of two semicircles M M, the connecting bar N, or its equivalent, and the front share standards J′, operating substantially as and for the purposes specified.

Third, the arrangement of the latch R with the rod *m* and arc E, as and for the purposes shown and set forth.

Fourth, the arrangement of the lever *l* with the latch R and rod *m′*, operating to release the forward ploughs when they are raised from the ground, substantially as shown.

Fifth, the arrangement of the long neck yoke D′ with the two poles D, as and for the purposes specified.

No. 49,548.—EBENEZER PIERCE, Hallowell, Me.—*Bomb-lance for Killing Whales.*—August 22, 1865.—This invention, which is designed to be thrown by hand, in addition to the ordinary barbed lance, is provided with an explosive head, which, after entering the whale a certain distance, is projected forward by the action of a trigger firing a charge chamber attached to the harpoon staff. A cord attached to the barbed harpoon or lance passes through an eye at the end of a rod, pivoted to the bomb portion or separable head of the instrument, so that the said cord has thereby two distinct attachments to the whale.

Claim.—First, an apparatus for fastening two irons to a whale at one operation, consisting of the bomb-lance E, in combination with a harpoon or other iron D, operating substantially as set forth.

Second, a rod or rods *w*, in combination with the staff *p* of the bomb, operating in the manner and for the purpose set forth.

No. 49,549.—VAN RENSSELAER POWELL, Troy, N. Y.—*Manufacture of Friction Matches.*—August 22, 1865.—This invention consists in cutting the match block into thin sheets, one edge of said sheets being capped with the friction composition. When required for use a match is cut from one end of the strip.

Claim.—As a new article of manufacture the friction-match strips, the same substantially as herein described.

No. 49,550.—JOSHUA RANDALL, Grand Rapids, Mich.—*Churn and Butter-worker Combined.*—August 22, 1865.—This invention consists in the peculiar arrangement of a friction roller placed on a cross-bar over the churn body against which two vertical reciprocating dasher rods move, and also in the form of the dashers attached to said rods.

Claim.—The use of the two dashers *h* and *l*, made of the form and operated in the manner described.

Also, the use of the friction guiding roller *a′*, arranged with regard to the dasher rods, as described.

No. 49,551.—HENRY READ, Ypsilanti, Mich.—*Threshing Machine.*—August 22, 1865.—This invention consists in having the bottom of the feed box or hopper of a threshing machine provided with a recess just in front of the threshing cylinder to receive stones and other obstructions.

Claim.—The application to the feed boxes or hoppers of threshing and other analogous machines of a recess or chamber arranged relatively with the toothed cylinder of the machine, to operate substantially in the manner as and for the purpose herein set forth.

No. 49,552.—W. P. ROBINSON.—Brimfield, Ill., assignor to himself and N. E. WORTHINGTON.—*Adjustable Thills.*—August 22, 1865.—The thills in this wagon are laterally adjustable by means of perforated arcs and removable pins, in such a manner that one or both thills may be moved to the right hand or to the left, to enable the horse to travel in the centre of the road or upon either side thereof as may be desired.

Claim.—The combination of the thills A B, and cross-bar C, pivoted together at *c c*, with the arcs E F, perforated as described, and the removable pins *m n*, arranged and operating substantially as and for the purposes herein shown and described.

No. 49,553.—E. E. SAFFORD and SYLVANUS SAWYER, Fitchburg, Mass.—*Adjustable Centre Punch.*—August 22, 1865.—This device consists of a trough-shaped stock, the sides of which are at right angles to each other, and from the upper end of which projects a neck supporting a head, through a mortise, in which slides a horizontal arm, having a socket on its inner end, containing a sliding centre punch, the axis of which is parallel with and in the same plane as the central longitudinal plane of the stock. By placing the inside of the stock against the bar to be centred, the sliding arm extends radially over the end theroof, and its diameter being known, the punch by means of a measured scale is easily set in the centre of the bar, which is then marked by a blow of a hammer on the top of the punch.

Claim.—First, the combination of the adjustable stock A with the extension bar B.

Second, the combination of the indicator C with the stock A and the extension bar B.

Third, combining the centre punch F with the extension bar B, the indicator C, and the stock A, the whole being arranged and operating substantially in the manner herein described and set forth.

No. 49,554.—W. D. SCHOOLEY, Richmond, Ind.—*Straw Cutter.*—August 22, 1865.—The novelty of this invention consists in an arrangement by which the feed can be regulated as to the length of cut while the machine is in operation.

Claim.—First, the rod *a* with its handle *g*, the lever *c* with its attachments, cam rod *b* and its connections, and the connecting rod *f*, all arranged and operating as described.

Second, the combination of the rod *a*, lever *c*, connecting lever *f*, and feed roller ratchet wheels *d* and *e'*.

Third, the combination of the rod *a*, lever *c*, cam rod *b*, and feed rollers E and I, as set forth.

Fourth, the combination of ratchet wheels *d* and *e*, the connecting lever *f*, lever *c*, and rod *a*, for the purpose of holding the feed during the cut of the knife.

No. 49,555.—ANTON SCHWITTER, New York, N. Y.—*Rose Engine for Ornamenting Glass.*—August 22, 1865.—This invention consists in the application of a hinged tool holder to a revolving tool used in combination with the usual mechanism of a rose engine for ornamenting articles of glass. This tool holder is connected with a carriage moving back and forth in a suitable rest, in such a manner that by means of the rest the tool can be adjusted to any desired position in the usual way; and by means of the hinged holder it can be brought up to or removed from the surface of the work, without danger of spoiling it, and with facility.

Claim.—The use of a hinged tool holder, in combination with the slide A or its equivalent, fitting into the rest of a rose engine or equivalent mechanism, constructed and operating substantially as and for the purpose set forth.

No. 49,556.—HENRY C. SARGEANT, Columbus, Ohio.—*Steam Generator.*—August 22, 1865.—This invention consists in the combination of a cylinder or tube of metal, placed around the fire-box a little distance therefrom, with the fire-box and a reservoir formed on the top thereof. The object of this combination is to cause the water which is carried below the crown sheet to circulate between the tube and fire-box, and keep the reservoir filled with water, thus facilitating the generation of steam, and at the same time preventing injury to the plates composing the fire-box. The fire flue, which rises from the top of the fire-box, is also provided with a surrounding tube, leaving a space, as in the former case, for the circulation of water, which is taken from the reservoir above the fire-box, and carried upward in contact with the outer surface of the flue, for the purpose of being converted into steam.

Claim.—First, the combination of the metal cylinder or casing around the fire surface with the fire-box, and a reservoir for a body of water upon the crown sheet.

Second, the combination of the fire-flue and casing around it, when so arranged as to receive water from the reservoir on the crown sheet, and convey it upward in contact with the flue.

No. 49,557.—JOHN SHAFER, Sparta, N. Y.—*Seeding Machine.*—August 22, 1865.—In this invention a vertically adjustable triangular leveller is combined with an adjustable caster wheel, both being in front of the seed tube. A larger wheel is mounted in a frame pivoted at points coinciding with the axis of the seed cylinder, which is rotated by a chain passing over the axle of the wheel, and is lifted and retained by a spring brake lever.

Claim.—First, the combination of the leveller D, rear supporting wheel *g*, and covers *n n'*, arranged substantially as described.

Second, mounting the wheel H in a frame G, which is hinged at points coinciding with the axis of the seed cylinder *b*, in combination with the driving chain *d'*, or its equivalent, substantially as described.

Third, the spring-brake lever J, applied to the handles of the machine, in combination with the swinging roller frame G, substantially as described.

No. 49,558.—A. G. SHAVER, New Haven, Conn.—*Eraser and Burnisher.*—August 22, 1865.—This invention is explained by the claim.

Claim.—In combination with the blade and handle of an eraser or desk-knife, a ferrule of steel, or any equally suitable metallic or mineral substance, constructed substantially as described, so that it may be used as a burnisher, as set forth.

No. 49,559.—A. G. SHAVER, New Haven, Conn.—*Combined Eraser and Burnisher.*—August 22, 1865.—Combined with the blade or handle of an eraser is a metallic or mineral boss or button to serve as a burnisher after an erasion.

Claim.—In combination with the blade or handle of an eraser or desk-knife, the metallic or mineral boss, button, or bolster burnisher, substantially as described.

No. 49,560.—THOMAS SHAW, Philadelphia, Penn.—*Car Spring.*—August 22, 1865.—This invention consists in constructing a spring of disks of cork made elastic by boiling in molasses and water, or some non-evaporating substance.

Claim.—The employment of cork, in the manner and for the purpose set forth.

No. 49,561.—WILLIAM SHEPPARD, New York, N. Y.—*Liquid Soap.*—August 22, 1865.—This invention consists of a mixture of one pound of common soap, and one hundred pounds of ammonia.

Claim.—Liquid soap made by mixing common soap and hartshorn together, substantially as and for the purpose set forth.

No. 49,562.—SAMUEL SHREFFLER, Joliet, Ill.—*Brick Machine.*—August 22, 1865.—This invention consists in the combination of a brick presser and mixer with the shaft and cross-bar, and in the arrangement of a spring near the bottom, for the purpose of holding the shaft in a vertical position, and bringing the same down to a proper position after it has been raised.

Claim.—First, the combination of the pressing part I and mixers E with the shaft H, when operated by means of the device that is attached to the cross-bar B.

Second, the combination of the spring G with the shaft H and mixing-box A, substantially as described and set forth.

No. 49,563.—A. J. SMITH, Wayland, Mich.—*Beehive.*—August 22, 1865.—This invention will be readily understood by reference to the claim and engraving.

Claim.—The door composed of three slides or parts *b c c*, arranged substantially as set forth.

No. 49,564.—HENRY SMYTH, New Lorenzo, Cal.—*Gang Plough.*—August 22, 1865.—In this invention the bent axle in two sections is united at the centre by two central disks. One disk has a toothed edge, and rotates by a perpetual screw nearly perpendicular to it. The second disk moves independently of the other, or by means of a set screw is fastened to the first, and rotated by the same screw, so that one section of the bent axle, or both, can be elevated at once.

Claim.—The construction of the eccentrical shaft or axle in two parts, so as to be able to raise or lower one wheel without interfering with the other, and the arrangement of the cog wheel attached to the eccentrical shaft or axle, to raise or lower the body of the plough, together with the ploughshares, by means of the wheel or endless screw, and their combined arrangement, for manufacturing gang ploughs.

No. 49,565.—N. S. SNEDEKER, Philadelphia, Penn.—*Furnace for Puddling Iron.*—August 22, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, arranging the fire chamber in heating or puddling furnaces on two sides of the bottom, so that the flame from the fire is caused to act simultaneously on more than one side of the iron which is to be heated or puddled, substantially as shown and described.

Second, giving the front end of the bottom F an angular form, so that the iron to be heated or puddled, when placed thereon, is caused to present more than one side to the direct action of the flame, substantially as shown and described.

Third, the arrangement of the stock hole I, in combination with the fire chamber H H, the angular bottom F, the angular bridge G, the charging door or doors K, and the tapering sides C D, in the manner and for the purpose substantially as shown and described.

Fourth, the combination of the charging door K with the angular bottom F, these parts being constructed, arranged, and operating substantially as shown and described.

No. 49,566.—Wm. W. Spaulding, Galesburg, Ill.—*Mop Head.*—August 22, 1865.—A sliding head is connected with the handle, and with a rod and stationary head, in such a manner as to admit of the mop cloth being readily attached and securely held.

Claim.—The combination of the rod B with head C, sliding head F, and the handle A, when the parts are arranged in the manner as set forth.

No. 49,567.—C. M. Spooner, New Bedford, Mass.—*Composition for Coating Ships' Bottoms.*—August 22, 1865.—This invention consists of a composition of five hundred pounds of candle pitch, forty-five gallons of arsenious acid, one hundred pounds of carbonate of soda or potassa, twenty pounds of sulphur, and one hundred and twenty gallons of petroleum or turpentine.

Claim.—The said composition, made of the ingredients and in the manner substantially as described.

No. 49,568.—Andrew Stark, Topeka, Kan.—*Bedstead.*—August 22, 1865.—This invention consists of a bedstead so constructed that, when not in use it can be folded or brought into a compact form, and thus occupy but a small portion of the floor of a room in which it is placed.

Claim.—The combination of the hinged bed portion *a*, hollow base *c c*, the two-part footboard *l m*, and the double-hinged side pieces *s f*, when arranged in the manner and for the purposes herein described.

No. 49,569.—Alonzo Temple, Bridgeport, Conn.—*Composition for Preventing and Removing Incrustation from Boilers.*—August 22, 1865.—This invention consists of a composition of terra japonica thirteen parts, and marsh rosemary three parts.

Claim.—The within-described composition, made substantially as described.

No. 49,570.—William H. Towers, New York, N. Y.—*Hat.*—August 22, 1865.—In this invention air is admitted into the hat by a channel in the front and in the rear, by pressing the hat out of its regular form for the purpose.

Claim.—A hat, ventilated through spaces formed at the back and front, by irregular enlargements of the circle or ovoid, substantially as described.

No. 49,571.—H. H. Trenor, New York, N. Y.—*Curtain Fixture.*—August 22, 1865.—This invention consists of a socket or frame, in which the pulley runs, forming a guard to prevent the slipping off of the cord, in combination with the enlargement of the end of the journals, and the double dovetail attachment of the fixtures.

Claim.—First, a window-shade fixture, composed of one or more plates, so shaped or combined as to enclose the pulley on the end of the curtain or shade roller, and so as to give bearings to its axle at each side thereof, and to form a guard against the cord slipping off, in combination with the direct or indirect means of attachment, as herein described.

Second, in combination with the above, forming an enlargement on the end of the pin or axle of the roller and pulley, and similarly shaping its bearings in the plate, for the purpose of preventing the roller slipping out of the fixture.

Third, in combination with a fixture enclosing the pulley, as described, the double dovetail attachment, when constructed and arranged for operation substantially as herein set forth.

No. 49,572.—J. H. Walker, Worcester, Mass.—*Mode of Cutting Soles for Boots and Shoes.*—August 22, 1865.—This invention consists in cutting with a die a sole from the leather; the die is then turned around and another sole is cut, but previous to the last operation the die is slipped endwise a short distance to a point at which the die and the hole from which a sole has been already cut fit the most closely, and leaves the least amount of leather to be wasted.

Claim.—First, cutting up sides of leather into soles for boots and shoes, in the manner described and as shown on sheet 1 of the drawings.

Second, determining the true position of the die to commence cutting the second series of soles, in the manner described.

No. 49,573.—Charles R. M. Wall, Brooklyn, N. Y.—*Cooler for Brewers.*—August 22, 1865.—This invention consists of a vat made of wood, and supplied with water by means of a tube. Within the vat is a pipe to which other pipes are attached passing through a partition, and having cores of wood placed in them, so that the liquid may flow through them in a thin annular stream.

Claim.—First, the use of cores I, substantially such as herein described, in combination with the refrigerating pipes B, for the purpose set forth.

Second, securing the refrigerating pipes at one end only, leaving the other end free to expand and contract, as specified.

Third, the longitudinal pipe D, with one or more plugs F, and the compartment G with one or more gates H, in combination with the pipes B B′ B″, and vat A, constructed and operating as and for the purpose described.

No. 49,574.—DAVID WARREN, Gettysburg, Penn.—*Switches for Railroads.*—August 22, 1865.—This invention consists of two short metal rails, one having on the under side of its inner end, jaws to fit the top of the rail of the track. The other rail of the switch is made thinner and deeper, and rests against the rail on a tie; the outer ends of these rails are provided on their under sides with wings, pivoted to turn at right angles to the rail, to keep them from turning over; these wings are connected together by a short chain, to keep them from spreading apart.

Claim.—The employment of the rails B and C, constructed as specified, and used with the rails A A, and for the purpose herein set forth.

No. 49,575.—AMES WEST, Pontiac, Mich.—*Working Power for Sawing.*—August 22, 1865.—This invention consists in the application of a lever of the second class to a crank pin, for the purpose of rotating the same, the reciprocating motion imparted to the lever by the crank being provided for by a longitudinal slot in the end of the lever through which the fulcrum passes, by means of which the lever is enabled to play back and forth upon the fulcrum.

Claim.—In combination with the crank pin K, the lever L, pivoted to said crank pin, and supported on the stationary pin *a* which passes through the slot *b* of said lever, as and for the purposes specified.

No. 49,576.—RICHARD C. WILCOX, Guilford, Conn.—*Apparatus for Stripping Sorghum.*—August 22, 1865.—This device is composed of four spring blades, placed in a quadrangular form. A spring which serves as a guide to the entering stalk is placed so that its free end is in line with the centre of the blades, and yields when the stalk passes through.

Claim.—The guide spring *m*, in combination with the stripping springs *a b c d*, all operating as and for the purpose set forth.

No. 49,577.—L. R. WITHERELL, Galesburg, Ill.—*Instrument for Stripping Sugar-cane.*—August 22, 1865.—This invention consists in the employment of a notched wheel, in connection with a yielding blade and a fixed standard, whereby the leaves may be stripped from the stalks of sorghum, or Chinese sugar-cane, with the greatest facility.

Claim.—The standard A, provided with the slot *a*, in combination with the notched wheel C, and blade E, all arranged to operate in the manner substantially as and for the purpose set forth.

No. 49,578.—C. D. WRIGHT, Leesville, Conn.—*Water Wheel.*—August 21, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The buckets C, formed of a section of a cylinder with the ends flaring from the bottom, and connected to the arms B by the flanges *a*, all substantially as shown and described.

No. 49,579.—J. T. WRIGHT, Nashua, N. H.—*Elevating Crane.*—August 22, 1865.—This invention consists in the combination of specific devices used in the construction and operation of an elevating crane. The claim and engraving show the devices and mode of operation.

Claim.—The combination for raising or lowering the pulley *o*, the same consisting of the rope E, the pulleys *l m d e f p*, the rack F, and the train of gears *r s t u v w* and *x*, applied to the four shafts *y z a′ b′*, the whole being arranged as set forth.

Also, the combination for operating the pulley carriage B, the same consisting of the rack C, the train of gears *d′ e′ f′ g′* and *h′*, applied to the shafts *i′ k′ l′*, the sprocket wheels *n′ o′*, and chain *p′*, the whole being arranged substantially as hereinbefore explained.

No. 49,580.—WILSON WYCKOFF, Chagrin Falls, Ohio.—*Trace Buckle.*—August 22, 1865.—This invention consists in a loop with a shoulder and an opening at the head, together with a bail, to the middle or which a tongue is connected, the other end whereof is bent at right angles, forming a hook to be inserted into the holes of the strap.

Claim.—The loop A, with shoulder *a′* and opening *a*, bail D, and tongue *f*, when constructed and arranged substantially as and for the purpose set forth.

No. 49,581.—GEORGE BOOTH, assignor to PORTER & BOOTH, Philadelphia, Penn.—*Sheet-metal Gridiron.*—August 22, 1865.—This invention consists in "forming up" the bars, and

head and tail rests, from one piece of sheet-metal, so that an article, equal in strength and durability to those in general use, can be made at less cost, without the inequalities of surface so difficult to keep clean.

Claim.—As an improved article of manufacture, a sheet-metal gridiron, having its bars, and its head and tail rests, constructed in one piece of sheet-metal, substantially as and for the purposes specified.

No. 49,582.—GEORGE S. BRADFORD, assignor to himself and CLARK THOMPSON, Bennington, Vt.—*Machine for Winding Conical Bobbins.*—August 22, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The combination of a conical roller D with a prostrate conical bobbin A, and bobbin spindle B, revolved by a rotary sleeve or collar C, and pressed endwise toward the said conical roller by a weighted lever E, or its equivalent, substantially as herein described.

Also, mounting the conical roller on a pivot or axis F, substantially as and for the purpose herein set forth.

No. 49,583.—LEWIS WELLS BROADWELL, New Orleans, La., assignor to C. M. CLAY, Ky.—*Breech-loading Fire-arm.*—August 22, 1865.—In this invention a breech-block sliding transversely through a vertical slot or mortise at the rear end of the barrel is provided at its lower extremity with a screw thread, upon which is fitted a nut attached to the trigger guard, so that on a lateral or transverse movement of the said trigger guard lever, the breech-block is drawn down sufficiently to expose the chamber of the barrel. A small spring lever at the under side of the stock is so connected with the movement of the trigger guard as to act as a safety-stop, preventing the fall of the hammer till the breech-block is in place.

Claim.—First, the combination of the sliding breech-block *b* and screw shank *b'*, constructed substantially as described, with the horizontally vibrating trigger guard *d* and rest *c*.

Second, the mechanism for preventing the premature discharge of the gun, as herein described and illustrated by the drawings.

No. 49,584.—WILLIAM H. DOANE, assignor to himself and G. H. FAY & CO., Cincinnati, Ohio.—*Journal Box.*—August 22, 1865.—This invention consists in providing a journal box with rectangular chambers at its ends for holding the oil, which is conducted to all parts of the journal therefrom, by means of a capillary substance; also, in providing passages for the return of the oil that otherwise would escape back to the chambers at the ends.

Claim.—First, a journal box, which is constructed with end chambers *b b* and a channel or groove *c* extending lengthwise through the box, substantially as described.

Second, the channels *e e*, in combination with the end chambers *b b* and channels *e' e'* in the cap B, substantially as described.

Third, providing for conducting the oil from the journal C back into the chambers *b b* at the extremities of the journal box, substantially as described.

No. 49,585.—ROBERT BOYLE, assignor to himself and GUISEPPE TAGLIABUE, New York, N. Y.—*Electro-magnetic Telegraph.*—August 22, 1865.—This invention does not admit of a brief description. The claim defines the nature of the improvement.

Claim.—First, the alphabet disk A, in combination with the revolving traversing paper cylinder D and punch F, constructed and operating substantially as and for the purpose described.

Second, so arranging the perforations in the paper that each of them, by its peculiar position in relation to the perforation representing the starting point of the message, and to the preceding and succeeding perforations, which position is governed by the revolving and traversing motion of the paper cylinder, or by any other equivalent means, represents a specific letter or sign, substantially as and for the purposes set forth.

Third, the combination of the screw spindle C' and spring C, with the revolving metallic cylinder B' and perforated paper containing the message to be transmitted, substantially as and for the purpose set forth.

Fourth, the electro-magnet F' and stop pawl *k'*, in combination with the cylinder B', carrying the perforated paper, and with the spring *l'*, constructed and operating substantially as and for the purpose specified.

Fifth, the division wheel G', constructed as described, in combination with springs *q q* q' q'* q'' q''**, paper cylinder B, electro-magnets A'', and horseshoe magnet B'', constructed and operating substantially as and for the purpose specified.

Sixth, the combination of the electro-magnet A'' and horseshoe magnet B'', with the clock movement of the receiving instrument, constructed and operating substantially as and for the purpose herein specified.

Seventh, the forked arm *a*2 and escapement wheel *b*2, in combination with the oscillating horseshoe magnet B'', type wheel D'', and clock movement C'', constructed and operating substantially as and for the purpose herein described.

Eighth, the sleeve *c*2, carrying the escapement wheel *b*2 and hair spring *d*2, in combination with the type-wheel shaft *f*2, wheel *g*2, pinion *i*2, crown wheel *y*2, and oscillating fork *a*2, constructed and operating substantially as and for the purpose described.

Ninth, the method, substantially as herein described, of regulating the motion of the type wheel by means of a clock-work and of an escapement wheel, to which motion is imparted by a hair spring, substantially as set forth.

Tenth, the combination of the sharp-pointed types with the type wheel D″ and with the printing mechanism, constructed and operating substantially as and for the purpose set forth.

Eleventh, the escapement wheel J2 and electro-magnet K2, in combination with the dog *t*2, arm *w*2, spring *v*2, and printing block F2, constructed and operating substantially as and for the purpose set forth.

Twelfth, the combination of the oscillating horseshoe magnet B″, electro-magnet K2, escapement wheel J2, type wheel D″, and printing block F2, constructed and operating substantially as and for the purpose described.

Thirteenth, covering up the strip of paper containing the message immediately after printing the same, substantially as and for the purpose specified.

Fourteenth, the roller *n*2, carrying a series of points, and applied in combination with the take-up roller, *m*2, substantially as and for the purpose described.

Fifteenth, the oscillating shaft *z*2, carrying the dog *b*3 and arm *y*2, in combination with the wheel *w*2, escapement wheel J2, and type wheel D″, constructed and operating substantially as and for the purpose set forth.

Sixteenth, the stop pawl *k*′, electro-magnet F′ and perforated strip of paper containing the message, in combination with the oscillating horseshoe magnet B″, electro-magnet K2, and printing mechanism, constructed and operating substantially as and for the purpose specified.

No. 49,586.—DEGRASSE FOWLER and HERBERT E. FOWLER, Wallingford, Conn., assignors to HENRY B. GOODYEAR, New Haven, Conn.—*Tinning and Plating Iron Screws.*—August 22, 1865.—This invention consists in placing the screws, after being thoroughly cleansed by acid, in an iron cylinder which has been previously heated to redness, and placing this cylinder over a fire in a furnace. Tin scrapings are then allowed to drop in upon the screws, the cylinder being violently agitated during the operation. When the screws are perfectly coated they are thrown out of the cylinder upon a chute, which consists of a vertical box, at as great height as possible, provided with inclined planes extending alternately from opposite sides of the box. After passing through said box the screws are dropped into water.

Claim.—First, the process herein described of tinning and silvering wood screws or other like articles.

Second, as a new article of manufacture, wood screws, or other like articles, tinned in the manner herein described.

Third, as a new article of manufacture, wood screws, or other like articles, silvered in the manner herein described.

No. 49,587.—JOSEPH HAFNER, assignor to himself and T. M. FRIEDENBACH, Sterling, Ill.—*Well Drill.*—August 22, 1865.—This invention consists in the arrangement and combination of a sliding bed, a centre regulating screw, a windlass, and a square drill with movable cutters for the purpose of sinking oil wells.

Claim.—The arrangement and combination of the sliding bed G with its centre operating screw I, the windlass B, and square drill J, with its movable cutters N, as herein described, and for the purposes set forth.

No. 49,588.—G. W. HARRINGTON, assignor to himself and T. H. WHITE, Orange, Mass.—*Guide for Sewing Machines.*—August 22, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The combination and arrangement of the spirally grooved roller R, the wire D, and adjustable springs S, with the bed plate A B, all operating as and for the purpose specified.

No. 49,589.—JOHN W. HAYSE, assignor to himself, WILLIAM M. GORDON, and LEVI J. RODGERS, Salem, Iowa.—*Hand Loom.*—August 22, 1865.—In this invention the upright rods carrying the harness are interchangeable on the treadles, so as to vary the twill or style of the cloth at pleasure.

Claim.—The combination of the batten *c*, hooked arm H, shaft F, arms or projections G G, treadles D, and harness K, when constructed, arranged, and operating in the manner and for the purpose herein shown and described.

No. 49,590.—EDWIN A. JEFFERY, assignor to the AMERICAN BASKET COMPANY, New Haven, Conn.—*Fruit Basket.*—August 22, 1865.—This invention consists in grooving the edge of the board bottom to admit the ends of the splints.

Claim.—Constructing the bottom of baskets, and securing the sides thereto, substantially as herein set forth.

No. 49,591.—MATTHIAS J. RICE and WILLIAM H. MILLER, Boston, Mass., assignors to MATTHIAS J. RICE.—*Journal Box.*—August 22, 1865.—This invention consists of a remov-

able reservoir or oil box which can be detached without disturbance to the journal box, and in the form of a box, having its ends extend beyond the box, with caps to fit over such projections. Also, in having an oil passage leading to the top of the box made directly through and in the body of the casting constituting the lower half of the box, for the conveyance of oil to the top of the box by means of a capillary substance, and a like passage on the other side of the box to conduct back to the reservoir any surplus oil carried over by means of rapid motion.

Claim.—The application of the oil reservoir to the lower half of the box, so as to be removable from and without disturbance of the box substantially, as set forth.

Also, the extension of the reservoir beyond the ends of the box, when made separate from the box, and the employment of the hoods *n* fitting over such extensions, and against the cap *c*, substantially as shown and described.

Also, the oil passages *g*, leading to the top of the box, or the part *a* thereof, made directly through and in the body of the casting, constituting the lower part of the box.

Also. the combination of the oil conveyor *h* for lubricating the shaft on one side of the box, with the return passage *g* on the other side of the box, substantially as set forth.

No. 49,592.—STEPHEN M. RICHARDS, assignor to himself and THOMAS W. JONES, Litchfield, Ill.—*Sash Fastening.*—August 22, 1865.—This invention consists in the combination with horizontally-sliding latches of a finger piece, cords; and pulleys, and has for its object a more convenient mode than usual of liberating the sash, in order to raise and lower the same.

Claim.—The combination with the horizontally-sliding latches D D, of the finger-piece F, cords *b b*, and pulleys *d d*, when the parts are arranged to operate in the manner and for the purpose described.

No. 49,593.—HENRY SHATTUCK, Hamden, Conn., assignor to BENNET HOTCHKISS, New Haven, Conn.—*Atmospheric Hammer.*—August 22, 1865.—This invention consists in attaching the connecting rod or pitman directly to the piston, by means of a noddle pin passing through the latter and through longitudinal slots cut in opposite sides of the cylinder. The outer ends of this pin are connected to a bail or yoke forming the lower end of the connecting rod, and which bail, when the hammer is in operation, oscillates above the upper end of the cylinder.

Claim.—First, the combination of the cylinder G with the piston H, when constructed and made to operate substantially as herein described.

Second, the combination of the piston H with the forked connecting rod *c c* and the noddle pin *e*, when the noddle pin works in two longitudinal slots in the cylinder, and the whole is connected and made to operate substantially as herein described.

No. 49,594.—J. T. WARREN, assignor to himself and ROBERT CHESBROUGH, Stafford, N. Y.—*Rotary Engine.*—August 22, 1865.—This invention consists in a novel and simple construction and arrangement of the parts composing a rotary engine, for the purpose of increasing its effectiveness and power.

Claim.—The piston *h*, on the disk *f*, partition plate *s*, the induction port *n*, and eccentric cut-off *a' b'*, all arranged and operating as herein specified.

No. 49,595.—WILLIAM B. WHITE, assignor to EGBERT E. RICHARD, North Attleboro', Mass.—*Button.*—August 22, 1865.—In this invention an orifice is made centrally in a button, into which a flanged cup of metal is fitted and secured; through the bottom of this cup is punched any number of holes, affording a means of attaching to the fabric.

Claim.—The improved button, as made of the perforated metallic flanged cup B, and the flat annulus or disk A, as described, arranged and combined together, substantially as specified.

No. 49,596.—MARIN JOSEPH ALPHONSE MILLE, assignor to H. A. G. DU VERGIER, Paris, France.—*Apparatus for Carburetting Air.*—August 22, 1865.—This invention consists of a series of drums communicating with each other by means of pipes. The drums are filled with absorbent material, and each drum is provided with a large opening through which the interior of the drum may be observed. The hydrocarbon liquid is poured in, and the air enters and escapes through apertures provided for that purpose; the surplus liquid may be drawn off from the drums through the cocks.

Claim.—An apparatus for carbonizing air, composed of a series of drums A A′ A″, which are filled with some absorbent material, and made to communicate with each other by suitable pipes, in combination with an air supply and gas discharge pipe, constructed and operating substantially as and for the purpose described.

No. 49,597.—THOMAS MACFARLANE, Acton Vale, Canada East, assignor to himself, R. LECKIE, and THOMAS S. HUNT.—*Process of preparing Chlorine, Bleaching Powder, Carbonate of Soda, and other Products.*—August 22, 1865.—This invention is described by the claim.

Claim.—First, the production of chlorine by heating a mixture of calcined green vitriol, common salt, and peroxide of iron, in a current of air, in the manner described; and not only the production of chlorine in this manner, but the use of chlorine so produced in manufac-

turing chloride of lime, chloride of potash, sulphuric and muriatic acids, or in any process in which gaseous chlorine may be advantageously applied.

Second, the use of the residue resulting from the production of chlorine from sulphate of iron and common salt, as above described, in the manufacture of carbonate of soda and soda ash, substantially as described.

Third, the use of the refractory mixture of burnt lime and slag for forming the hearths of the furnaces employed in smelting the mixture of sulphate of soda, peroxide of iron, and charcoal, or coal, substantially as described.

Fourth, the described method of decolorizing the deep greenish colored alkaline solution in the manufacture of carbonate of soda and soda ash.

Fifth, the production of sulphate of iron from the artificial sulphuret of iron, in the manner substantially as described.

Sixth, the described process for manufacturing carbonate of soda and soda ash, when the same is combined with the two other parts of the invention, substantially as and for the purpose described.

Seventh, the use of the equivalent apparatus, by means of which the invention may be carried out, substantially as described.

No. 49,598.—GEORGE BEDSON, Manchester, Great Britain.—*Apparatus for Rolling Wire.*—August 22, 1865.—This invention consists in a mode of constructing guiding devices to be used in the rolling of wire, the principal object being to prevent any breakage of important parts of the machine, and to allow spills, or other such detached portions of the metal, to escape.

Claim.—A guide to be used in the rolling of wire, having the general form and construction herein described, and for the purposes set forth.

No. 49,599.—P. SICOURET, Saragossa, Spain.—*Packing for Well Tubes.*—August 22, 1865.—In this invention, around the pump tube and within the well tube a series of flexible disks is placed, being connected with each other in pairs alternately at their peripheries and at their inner circles, so that they may all expand and contract longitudinally like a bellows. To facilitate this action, several slits are made in each disk from its inner junction toward the periphery. This packing is attached at each end to a heavy metal ring; from the lower ring rods ascend through the packing and through the upper ring. Rods also ascend from the upper ring, by which the packing is regulated from the top of the well.

Claim.—First, a removable packing for tubes of oil and other wells, composed of annular plates united alternately at their inner and outer edges, so as to be capable of being drawn away from each other when the packing is to be removed, substantially as and for the purposes above described.

Second, in combination, a series of annular plates of elastic and flexible material, connected to each other, and annular metallic collars or heads above or below them, substantially as above described.

Third, in combination, a series of annular plates of elastic or flexible material, connected to each other as shown, annular metallic collars or heads above and below them, and a set of lifting rods for each collar or head, substantially as described.

Fourth, in packing the tubes of oil and other wells, applying the packing apparatus by bringing the packing surfaces or the edges of the material used into, or nearly into, a flat or horizontal position, and of collapsing and retiring the same from the sides of the tube and of the well by bringing such surfaces or edges into angular positions, all substantially as above described.

No. 49,600.—G. W. ANDREWS and J. P. BURNHAM, Chicago, Ill.—*Carpet Fastening.*—August 29, 1865.—This invention consists of a single piece of wire, bent so as to form two eyes for screws and two points to pierce the carpet.

Claim.—As a new article of manufacture, the carpet fastening B, made by bending a single piece of wire, with eyes *a a*, hooks *b b*, and a bracing stay *c*, in the manner herein described.

No. 49,601.—G. J. BERGEN, Galesburg, Ill.—*Corn Planter.*—August 29, 1865.—This invention consists in hinging the grain hopper upon one side to a single cast-iron piece, upon which are lugs for it to rest upon; also in providing the side with a rectangular groove to prevent breaking the seed.

Claim.—First, the plate B, provided with the ears *a a* and lugs *b*1 *b*, as and for the purpose set forth.

Second, securing the hopper A by means of the hinge joint at its front and brace *d*, constructed and operating substantially as and for the purpose set forth.

Third, the seed slide C, provided with the inclined flat groove *o*, as herein shown and described.

Fourth, making the post E, with the detachable piece *h*, as and for the purpose set forth.

No. 49,602.—ABEL BREAR, Saugatuck, Conn.—*Liquid Ejector.*—August 29, 1865.—This invention consists in providing a simple curved or bent pipe, having an unobstructed

passage and an external nozzle for the admission of the steam or other fluid communicating with the said passage on its back or outer curved side, at a point directly opposite to and in line with the outlet or discharge opening.

Claim.—The ejector, consisting of a single curved or bent tube A, having an unobstructed passage and external nozzle *a* for the admission of steam or other aeriform fluid communicating with the said passage on its back or outer curved side, at a point directly opposite to and in line with the outlet or discharge opening *b*, substantially as and for the purpose herein specified.

No. 49,603.—N. S. CHAPPELL, New York, N. Y.—*Water Ejector.*—August 29, 1865.—This invention consists of a hollow globe, with a hollow shaft passing transversely through its centre. One end serves as an induction pipe for the steam, which passes into the centre of the globe, where a nozzle is arranged in line with the axis of the water induction and eduction pipes, which direct the steam into either of these pipes, as occasion may require; to accomplish this result, the shaft is made so as to be capable of being rotated upon its axis, and is provided with a stuffing box at each end to make it steam and water-tight, and a swivel is provided in the steam pipes to permit of its being rotated.

Claim.—The movable or reversible shaft F, having an attached nozzle G or outlet, in combination with an ejector, substantially as and for the purpose herein specified.

No. 49,604.—N. W. Clark, Detroit, Mich.—*Building for Preserving Milk, Fruit, &c.*—August 29, 1865.—This invention consists of a building, the walls of which are made hollow and packed with saw-dust, the interior being divided by partitions. A tank is provided for containing the milk, and within said tank is a rotary stirrer. The stirrer is operated by the gearing and crank attached to a shaft passing through a partition to the adjoining room. The milk may be drawn off from the tank by means of a cock which is opened and closed by a valve operated by a rod passing through said partition. The tank is filled by means of a funnel communicating with the tank by a pipe, the contents to be drawn off for use as required. There is also a room for storing fruits.

Claim.—First, the arrangement and construction of the building, with its apparatus E G H R U and W, as herein described and for the purposes set forth.

Second, the arrangement of the devices R N S W and U, so as to be operated in the one apartment J without affecting the temperature of the adjoining apartment D.

Third, the mode of preserving the ice and saving all the drippings by conveying the cold water from the melting ice by means of pipes through a series of rooms to one or more reservoirs or tanks.

Fourth, the shape and construction of the faucet U, arranged and combined with the head W and valve T, as herein described and for the purposes set forth.

Fifth, keeping the sawdust undisturbed by means of tubes P P P in the partition wall, so that the crank N, handle S, and faucet U may be opened or removed without opening the apartment D.

No. 49,605.—WILLIAM H. CLARK, Cincinnati, Ohio.—*Tent Frame.*—August 29, 1865.—In this invention the arms are hung so as to form a wall tent, and the central rod, to which the upper sections of the arms are braced by the usual links, does not extend below the eye or centre of the bracing links, while it extends sufficiently above the expanded frame to supply an attachment for holding cords or guys.

Claim.—The combination of the shaft G with the hinged legs A, sleeve C, and rods I, when constructed and applied as herein described, so that in the extended condition of the frame the said shaft will extend above the frame for the attachment of guys.

No. 49,606.—W. M. CLARKE, Butternuts, N. Y.—*Machine for Scouring Leather.*—August 29, 1865.—This invention consists of a main frame, provided with a sliding frame, upon which slides another frame in a direction at right angles with the above. A revolving table is attached to the frame, the leather being secured to said table; a bar is also attached to another oscillating bar, which is secured to the upper part of the frame. The said bar is put in motion by means of a crank.

Claim.—First, the frame A, as constructed, in combination with the rotary table B, carriages C and B, substantially in the manner and for the purpose set forth.

Second, the carriages B and C, operating substantially in the manner and for the purpose set forth.

Third, the ropes R, pulleys F, and crank shaft N, operating the carriages, substantially in the manner and for the purpose set forth.

Fourth, the rotary table D, in combination with the carriages, substantially in the manner and for the purpose set forth.

Fifth, the rubber arm E, whiffletree H, lever F, connecting rod G, spring L, and friction roller T, with connecting rod attached, the whole combined and operating substantially in the manner and for the purpose herein set forth.

No. 49,607.—WILLIAM COGSWELL, Ottawa, Ill.—*Harvester.*—August 29, 1865.—This invention relates to the gudgeon which supports the wheel, the said gudgeon being pro-

vided with flanges, to which the reel shaft pulley and its attached washers are fitted, and is also prolonged so as to form an extended bearing for the said pulley.

Claim.—The flanged gudgeon, which is adjustably supported on the reel post, and sustains the reel with an extended bearing longitudinally, substantially as described.

No. 49,608.—WILLIAM COGSWELL, Ottawa, Ill.—*Harvester.*—August 29, 1865.—This invention consists in attaching the cutter bar to diagonally opposite corners of the main frame, the forward connection being readily detached, and the rear connection vertically adjustable and pivoted, so that when the former is broken the cutter bar and platform will swing round directly in rear of the frame. The upper support of this pivoted connection also forms the upper portion of the journal for the main axle, and has a raised circular portion over said axle, which is notched to form scope for the shipping lever.

Claim.—First, attaching the cutter bar, and through it the platform, to the frame by the pivotal connection and draught rod, at diagonally opposite corners of the frame, as represented, so that, by the breaking or detaching of the latter, the platform wheels around and tows behind.

Second, the method of connecting the bridge piece L to the frame by means of a pillar pivoted in holders N O and the box *l'*, which is adjustable vertically on said pillar, substantially as and for the purpose described.

Third, the cap piece T, in its three-fold character, as a portion of the journal bearing the circle for the lever and the holder for the upper end of the pillar M, substantially as herein set forth.

No. 49,609.—C. H. DANA, West Lebanon, N. H.—*Machine for Making Sheep Labels.*—August 29, 1865.—In this machine there is a wide block or plunger, to which a vertically reciprocating movement is imparted by a crank shaft. To the lower end of this plunger is fitted a series of dies: first, a series (3) of numbering wheels, arranged and operated similarly to those used in book paging, which stamp progressively the numbers upon the strip of metal; secondly, a series of types, which impress upon it initial or other letters; and thirdly, a die, which first severs the portion thus numbered and lettered from the strip of stock, and then binds it to a proper shape around a former.

Claim.—A machine for making labels for sheep, in which the several operations of numbering, lettering, cutting off, and bending the metal strip are performed by means of dies, cutting formers, and jaws, constructed and operating substantially as described.

Also, the wheels *d d d2*, in connection with the pawl *e*, for numbering the metal strip, constructed and operating substantially as described.

No. 49,610.—SETH M. DAVIS, Rushville, Mo.—*Rotary Engine.*—August 29, 1865.—This invention consists in the combination of the pistons, which are situated upon the extremities of the hollow arms, with the steam ports, situated in the hub of the main shaft, and which serve as induction passages for the steam, the eduction ports being located upon the periphery of the enclosing case of the engine. The steam is admitted to a chamber in the shaft through a pipe attached thereto, and which revolves therewith, from which it is admitted to the cylinder through the above named ports.

Claim.—Two pistons P P, in combination with the steam pipes *n n* and the steam ports *e e e e* of the steam chest D, when constructed as described and set forth.

No. 49,611.—LEWIS Z. DODD and ROBERT WALSH, Three Rivers, Mich.—*Carriage Tops.*—August 29, 1865.—This invention consists in so constructing the top of a riding carriage, that its rigid connection with the body shall be with the seat alone, and not with the sides, or back, or front; and in so connecting the top with the seat that the former can almost instantaneously be removed from the latter. The object of these arrangements is to prevent the transmission to the body of jars or strains received by the top.

Claim.—First, the combination of the top with the seat of the carriage, in the manner described, for the purpose set forth.

Second, fastening the top to the seat of the carriage, substantially in the manner described, for the purpose set forth.

Third, the skeleton frame, constructed as described, for the purpose set forth.

No. 49,612.—GEORGE W. DOTY, Lockport, N. Y.—*Apparatus for Mounting and Printing Photographic Cards.*—August 29, 1865.—This invention consists of an apparatus of two sections hinged so as to fold one upon the other, in one of which is placed the card to be printed, and in the other the photograph from which the picture is to be transferred, picture side down. On the opposite side to that in which the card is placed is an apparatus for printing any desired name upon the card, and the whole arrangement is such that by shutting the sections together the printing and transferring processes are completed at the same time.

Claim.—First, the mounting and printing photographic cards at one continuous operation, as and by the means substantially as described.

Second, the construction and arrangement of the sections B and C, jointed or hinged together, in combination with the plate D, or its equivalent, as and for the purpose set forth.

Third, the printing silk H, type *c*, and cap H′, arranged and operating in combination with the sections B and C, or their equivalents, as and for the purpose set forth.

No. 49,613.—JOHN P. DRIVER, Marengo, Iowa.—*Lamp.*—August 29, 1865.—This invention consists in making the oil reservoir in two parts, one above the other, with a tube extending from the upper nearly to the bottom of the lower one, which lower part is made air-tight, with an elastic India-rubber hollow ball, having an orifice above to admit air, and an orifice below shut by a valve on the under side; also with a hollow tube answering the double purpose of a handle and tube to carry the air from the ball to the lower reservoir, so that by operating the ball the oil may at will be forced up from the lower to the upper reservoir.

Claim.—First, the base E F G H, made hollow and air-tight, as a reservoir.

Second, the supply pipe I J, for the double purpose of letting the oil into the reservoir, and also of transmitting it to the lamp fountain A B C D.

Third, the thumb bellows P Q R S, of India-rubber, with the aperture P, the slit S, elastic flap V, with a spiral spring to strengthen said flap, in place or not, as may be best, and the air chamber N O, as set forth.

Fourth, the hollow handle L K H, to answer the double purpose of a handle and air pipe, to transmit the air from the bellows to the reservoir. In lieu of said thumb bellows an ordinary short India-rubber tube, with a mouthpiece, may be used to force the air into the reservoir.

Fifth, the combination of the fount A B C D, the reservoir E F G H, the supply pipe I J, the elastic India-rubber ball P Q R S, with the aperture P, the slit S, and the valve V, the air chamber N O, with a spiral spring to hold said valve in its place, or other equivalents, the air pipe L K H, connecting with the reservoir E F G H, the support D M, the whole arranged and operating substantially as herein specified.

No. 49,614.—DAVID ELDRIDGE, Philadelphia, Penn.—*Anti-friction Wheels for Belt Gearing.*—August 29, 1865; antedated August 13, 1865.—This invention consists in combining an anti-friction wheel with the pulley of a driven or driving shaft, so that said wheel shall have a rotary motion on the periphery of said pulleys, or on the journal of said shafts, as the case may be, so as to relieve the journal of said driven shaft of a great amount of friction.

Claim.—The arrangement of an anti-friction wheel or wheels between the driving and driven pulleys, or between the journals of their shafts, so that the periphery of the wheel or wheels shall have a continuous rolling motion on the peripheries of the said pulleys or journals, as the case may be, substantially in the manner described and for the purpose set forth.

No. 49,615.—SIMEON L. FISHER, Brimfield, Ill.—*Gate.*—August 29, 1865.—This invention consists in attaching to the top of an ordinary gate a wind paddle having a broad flat surface, projecting outwardly from the gate over the top of the post, and secured thereto by a pinion or bolt, so as to swing freely therefrom. The object of this arrangement is to counteract the effect of a high wind upon the gate when it is being opened or shut.

Claim.—The construction of the wind paddle A, forming the top of the gate, and projecting beyond the end of the gate, in combination with the ropes C, when arranged and combined as herein described and for the purposes set forth.

No. 49,616.—M. J. FITZPATRICK and BENJAMIN BARKER, New York, N. Y.—*Punch.*—August 29, 1865.—This invention consists in applying to the tool stock a worm wheel which gears into an endless screw, the latter being operated by a crank or ratchet wrench, to which power is applied. The eye of the worm wheel is oblong, to fit the shape of the flattened part of the stock, which is turned by, and moves longitudinally through, said wheel. In withdrawing the punch from a hole made by it, the endless screw is thrown out of gear with the worm wheel, and the crank or ratchet wrench applied directly to the head of the tool stock, which is made square for that purpose.

Claim.—First, the bands surrounding the worm screw shaft, and connected to the eccentric boxes in the combination as and for the purpose specified.

Second, the combination of the worm screw and wheel, the flattened main screw, the eccentric and main stock, substantially as and for the purpose set forth.

No. 49,617.—BENJAMIN S. FLETCHER, Cornish, N. H.—*Inkstand.*—August 29, 1865.—This invention consists of a case containing an ink bottle, a spring to keep the latter in place, and a guard to prevent the spring from rising too high.

Claim.—The combination of the bottle C, the spring D, and the guard F, all arranged in the case A, substantially as described and for the purpose set forth.

No. 49,618.—J. F. FOSS, Lowell, Mass.—*Converting Reciprocating into Rotary Motion.*—August 29, 1865; antedated August 28, 1865.—This invention consists in a specific combination and arrangement of parts, and will be understood from the claim and engraving.

Claim.—The construction of the sliding frame C C, the combination, arrangement, and operation of the said frame C C, and the crank D D with the shaft L, substantially as herein specified and for the purpose herein set forth.

No. 49,619.—JOSEPH FOWLER, Watertown, Wis.—*Damper for Stove-pipes.*—August 29, 1865.—This invention consists of a series of cast-iron half disks, hinged in a frame, so that they can be turned up back to back, or turned down in a horizontal position; in this latter position they are kept apart by triangular flanges on their under sides. On the damper rod are two cam pieces, one operating on one half disk, and the other on the other half, when the rod is turned to open the damper. The disks may be perforated if desired.

Claim.—First, a series of divided disks, hinged, and formed alternately of larger and smaller size, the larger disks having openings near their centres, the whole forming a damper, as set forth.

Second, the triangular flanges *o o*, in combination with the hinged half disks, for the purposes and as specified.

Third, the cam pieces *l l* on the damper rod *h*, in combination with divided hinged damper disks, for the purposes and as specified.

No. 49,620.—JACOB FRICK, Philadelphia, Penn.—*Newspaper File.*—August 29, 1865.—This invention consists of two strips of wood, upon one of which is a projection adapted to a recess in the other. To the inner edge of each plate is secured a strip of India-rubber, or other elastic material. The strips are connected by springs, which press them firmly against the papers. An arrangement is also provided whereby, when the number of papers increases to such an extent as to straighten the springs, the strips may be set at a greater distance apart, and the springs released to act anew.

Claim.—First, the strips A and B, combined with the plates C and C′, and with the springs *a*, or their equivalent, substantially as and for the purpose specified.

Second, the plates A and B, one having a projection on its edge, and the other a recess in the edge adjacent to the said projection, for the purpose specified.

Third, the strips A and B, having strips of cloth, rubber, or other elastic material, secured to their inner edges, for the purpose specified.

No. 49,621.—D. M. GARRETT, Shelby, Ohio.—*Horse Hay-fork.*—August 29, 1865.—This invention consists in the combination and arrangement of parts, identified by the claim, from which, and the engraving, it will be readily understood.

Claim.—The arms A′ and B′, curved laterally, as shown and described, for the purpose of dispensing with the wooden heads, in combination with wheel *b*, hook J, link F, and lever L, when said parts are connected and arranged as herein shown and described.

No. 49,622.—H. P. GENGEMBRE, Pittsburg, Penn.—*Fire-screen.*—August 29, 1865.—This invention consists of a screen of suitable material suspended to one or more arms, and attached to the mantel-piece in such a way that it may be moved to suit the convenience of the occupant of the room.

Claim.—The sliding screen or screens S S, the slotted arm T, and disk H, the whole arranged and operating as and for the purpose specified.

No. 49,623.—VICTOR GIROUD, New York, N. Y.—*Steam-gauge Cock.*—August 29, 1865.—The object of this invention is to form and close the communication between the boiler, or other vessel, and the gauge, and also to provide for blowing out through the socket or tube of the same, thereby obviating the necessity of a separate cock for blowing out the water or steam, in such direction as will not be productive of injury to persons, or surrounding structures. The novelty consists in the relative arrangement of the ways in the plug of the cock.

Claim.—The arrangement of the way *a″*, as herein described, in relation to the way *a′* in the plug of the cock, for the purpose herein set forth.

No. 49,624.—VICTOR GIROUD, New York, N. Y.—*Globe Oil Cup.*—August 29, 1865.—The object of this invention is to lubricate the piston or valves of steam-engines while the engine is in motion, and to be enabled with the use of one cock and one globe to supply the globe with oil, or other material, without, while so doing, allowing the steam to blow out through the oil cup. It consists in the combination and arrangement of the plug, ports, &c.

Claim.—The plug D, with ways or ports I J K L and M, in combination with the inner shell C with ways F G G2 and H, the globe A2 and receiver B, the whole arranged and operating substantially in the manner herein described, for the purposes set forth.

No. 49,625.—C. L. GODDARD, New York, N. Y.—*Cylinders of Wool-burring and similar Machines.*—August 29, 1865.—In this invention, to secure cheapness, lightness, and to avoid the difficulties attending the making of the surface of metal cylinders so that they will not spring, and will turn true at high velocities, the inventor drives tightly upon a perfectly true shaft a steamed and kiln-dried block of wood; this is turned to the required size to receive the toothed rings, but before putting those on, radial and slightly spiral deep cuts are made in this cylinder from end to end, into which are inserted strips of iron or steel, which are then reduced even with and to form part of the surface of the cylinder; projections on the inner edges of these strips extend to the shaft. The cylinder may be formed of numerous pieces of wood cut diagonally, and united by glue or cement.

Claim.—The manner of constructing the inner cylinder of burring machines of metal strips and wood combined, on a metal shaft, substantially as and for the purpose specified.

No. 49,626.—ROBERT HENEAGE, Buffalo, N. Y.—*Grain Dryer.*—August 29, 1865.—This invention consists in the arrangement of perforated disks, provided with cones, and secured upon a shaft in regular series, with perforated hoppers so arranged and constructed as to distribute the grain to and from the centre of the machine.

Claim.—The arrangement of the perforated disks C, provided with the cones C′, and secured seriately upon the shaft B, with the conical perforated hoppers D, for the purpose of distributing the grain to and from the centre of the machine, the several parts being constructed in the manner specified.

No. 49,627.—D. W. G. HUMPHREY, Chelsea, Mass.—*Button-hole Sewing Machine.*—August 29, 1865.—This invention is designed as an improvement on Humphrey's patent of October 7, 1862. By means of adjustable cam plates, and a lever on which the pawl is thrown into action upon the ratchet wheel sooner or later, or for a longer or shorter period, the feed is adapted to the quality of work desired, and given the required increase in sewing around the eyelet part of the button-hole; the under carrier thread is dispensed with, and, in lieu thereof, one point of the loop carrier has an eye and carries the lower thread.

Claim.—The feeding guage, in combination with the ratchet hand or pawl, and the feeding ring which operates the clamp that holds the cloth, substantially as and for the purpose specified.

Also, the adjustable cam plate which regulates the range of feeding motion for spacing the stitching in working the eyelet, in combination with the ratchet hand or pawl, and the feeding ring which operates the clamp that carries the cloth, substantially as and for the purpose specified.

Also, the adjustable cam plate which regulates the range of feeding motion for spacing the stitches along the straight parts of the button-hole, in combination with the ratchet hand or pawl, the feeding ring, and the adjustable cam plate for adjusting the range of the feeding motion in working the eyelet, substantially as and for the purpose specified.

Also, the auxiliary spring which acts on the ratchet hand or pawl only at the time it is required to act on the ratchet teeth, in combination with the ratchet hand or pawl, the feeding ring, and the feeding gauge, substantially as and for the purpose specified.

Also, connecting the loop carrier and the under thread carrier with each other, to be operated together, and by the same means, substantially as and for the purpose specified.

Also, uniting two loop openers for opening the loop of the needle thread and the loop of the under thread, substantially as described, so that they shall be operated by the same means, as described.

Also, each of the loop openers, in combination with each of the oblique sides of the aperture in the plate below that part of the table on which the stitching is effected, substantially as and for the purpose specified.

No. 49,628.—WILLIAM R. HINSDALE, Brooklyn, N. Y.—*Extractor of Tubes, Drills, &c., from Oil Wells.*—August 29, 1865.—This invention consists in the combination of a short tube or cylinder, or equivalent, in one side of which is a spring projecting outward and upward, all so arranged as to slide down over the head of any broken rod in an oil well, and, when raised, to take fast hold thereupon and draw out the same.

Claim.—The cylinder A, to which the bar B is attached at one side, so as to afford no obstruction to the passages of the rod to be raised through the said cylinder to any desired extent, and which is constructed sharp-edged at the lower end, as described, in combination with the spring C, the top of which is nearly on a level with the top of the said cylinder, for the purpose specified, all arranged in the manner herein set forth.

No. 49,629.—JAMES E. HUSTON, Hillsdale, Mich.—*Flour Bolt.*—August 29, 1865.—This invention consists in placing in the bolt a wire carrier to whip the bran or strike the passing chop, thus dividing it when it has become aggregated into masses.

Claim.—First, the barrier F, consisting of the parallel wires stretched between the ribs of the bolter frame, substantially as described, and interposed between the inlet aperture for the chop and the bolting surface on the ribbed frame.

Second, in combination with the said carrier, the knocking device, as described.

No. 49,630.—JAMES IVES, Mount Carmel, Conn.—*Cattle Tie.*—August 29, 1865.—This invention relates to fastenings of rope halters for cattle for preventing the closing tongue of the fastening hook frame being casually displaced under any circumstances. The rope link is so applied to the rope halter that it cannot be made to slip, and thus tighten the halter about the neck of the animal, or assume any other position on the rope than that in which it was applied.

Claim.—First, providing for shortening the snap, or closing tongue of a snap hook, by applying the spring which operates to keep the tongue in place against the end of the hook, in rear of the pivot connection of said tongue, substantially as described.

Second, adapting the rear extension of the lever tongue D to receive and retain in place a spring which is located in rear of the fulcrum of said tongue, substantially as described.

Third, constructing the fastening rings E E′, and applying them to the halter rope, substantially as described.

No. 49,631.—HIRAM KEENEY, Potter Centre, N. Y.—*Cheese Curd Cutter.*—August 29, 1865.—In this invention the cutting blades rotate upon a shaft, at the same time that the shaft itself is carried along the vat by means of a rack and pinions.

Claim.—First, the vat A, Figs. 1, 2, and 3, in combination with the racks B B, pinions C C, and rollers D D.

Second, so arranging the racks B B, pinions C C, and rollers D D, in combination with shaft E and crank *g*, as to give the knives F F a revolving motion from the bottom of the vat upward, through the curd, always in the direction of the advance motion of the shaft E, when turned by the crank *g*.

Third, the revolving knives for the purpose of cutting curds in the process of making cheese, substantially as and for the purpose set forth.

No. 49,632.—WILLIAM H. KENNARD, Jr., Baltimore, Md.—*Window Shutter.*—August 29, 1865.—This invention consists in providing inside shutters with a hinged panel, to be opened and closed for the admission of air and light.

Claim.—The shutter provided with a hinged panel, as herein described, as an article of manufacture.

No. 49,633.—L. KING, East Cleveland, Ohio.—*Joint for Lightning Rods.*—August 29, 1865.—In practicing this mode of connecting tubular lightning conductors, a solid plug, screwed at the end of the branch tube, is of sufficient length to receive upon it, between the end of the branch and the main tube, a short section of tube called the thimble, the latter being so shaped at its ends as to fit snugly up against the end of the branch and against the side of the main tube. A tenon on the end of the plug, which passes through one side and into the interior of the main tube, is provided with a mortise through which a key is driven, which latter, drawing upon the plug, joins the tubes firmly together.

Claim.—The connection of branch pipes or rods by means of the pin *g*, head *c*, and collar *f*, with the dowel *d*, or their equivalents, substantially as described.

No. 49,634.—CALVIN Z. KROH, Tiffin, Ohio.—*Curtain Knobs.*—August 29, 1865.—This invention consists of a knob for fastening back the curtains of carriages, provided with a screw for fastening the knob to its place, and a button-head consisting of a square or angular enlargement, a neck, and a head.

Claim.—The new article of manufacture, as herein described, consisting of the screw *e*, flange *d*, square or angular enlargement *c*, neck *b*, and head *a*, all united together for the purpose set forth.

No. 49,635.—JOHN S. LASH, Philadelphia, Penn.—*Wash-board.*—August 29, 1865.—This invention will be understood by reference to the claim and engravings.

Claim.—In combination with a series of rollers of the form herein described, and arranged in relation to each other as set forth, a rubbing board having longitudinal and transverse grooves in or on its face, and acting with said rollers, as herein described and represented.

No. 49,636.—MILES K. and LYMAN P. LEWIS, Iowa City, Iowa.—*Device for Holding Sheep while being Sheared.*—August 29, 1865.—This invention consists in a revolving seat made concave or otherwise, for the purpose of holding sheep while being shorn of their wool, in connection with a back or rack made curved or otherwise, and provided with a device for adjusting said back to a greater or less inclination.

Claim.—A revolving seat, made concave or otherwise, for the purpose of holding and turning sheep while they are being shorn of their wool.

Also, in combination with the above-claimed seat, a back or rack, made arched, curved, or otherwise, to support the sheep on its rump, and provided with a device to hold said rack, more or less inclined, or otherwise.

Also, mounting said seat and rack on a rotating platform, so that it may be turned by the shearer to adapt it to the air, light, or other circumstances.

No. 49,637.—SIMON F. MACKIE, New York, N. Y.—*Process for Treating Ore.*—August 29, 1865.—This invention consists in first washing the ore, in order to drive out the volatile portions. After this it is fused in a suitable vessel. If necessary, a suitable flux may be added to the ore. The matter thus obtained is then washed and subjected to the action of acids to dissolve out the salts of the baser metals. Th e indissoluble residue containing the gold is fused with borax, litharge, and lead, and the gold separated from the lead by cupellation.

Claim.—The within-described mode of obtaining a rich gold residue from ores of gold, by treating the ores by roasting and fusing, and subjecting the roast to the action of acids, substantially as described.

Also, removing the baser metals and other matters from the roasted matter, and leaving a rich gold residue, by subjecting the roasted matter to the action of acids, substantially as described.

No. 49,638.—AARON MARCELLUS, Rockport, Ill.—*Bolt Machine.*—August 29, 1865.—This device consists of a pair of double-recessed dies working laterally, one recess griping the neck or body of the bolt blank so as to hold it tight, the other recess forming two sides of the head, when a reciprocating die, working into this recess against the end of the bolt blank, has staved it up. A pair of tongs in the hand of the attendant grasps the other end of the bolt blank, and, after the above operation has been performed and the dies have receded, turns the blank a quarter of a revolution, which presents the other two sides of the head to the recess in the two lateral dies, which, by another similar movement, finishes the head.

Claim.—The combination of a pair of double-recessed dies, one or both of which vibrate with a reciprocating die working between them, and with tongs, constructed substantially as described, and arranged and operating substantially as and for the purpose set forth.

No. 49,639.—WILLIAM W. MARSTON, New York, N. Y.—*Book Stand or Holder.*—August 29, 1865.—This invention consists of a standard that may be attached to any part of a chair, table, or other article of furniture, either vertically, horizontally, or at an inclination, and carry an adjustable arm and segment, with a table or book-holder, in such a manner that the latter may be placed in any position desired by the person using it.

Claim.—First, the socket *f*, in combination with the arm *h*, set on a gudgeon, and with the standard *b*, the parts being constructed and employed substantially as specified.

Second, the segment *i*, in combination with the arm *h* and standard *b*, substantially as and for the purposes specified.

No. 49,640.—REUBEN A. MCCAULEY, Baltimore, Md.—*Pump.*—August 29, 1865.—In this invention the metallic piston is made in sections, around a compound cam, and may be expanded or contracted to suit the bore. A valve below the working range of the piston is caged by a basket handle, which has a slot in it. To remove this valve from the well, the piston is let down so as to permit a pendent key to enter the slot in the handle, when a quarter turn is made and the rod lifted.

Claim.—First, the compound adjustable piston G, constructed and operating substantially as described, for the purpose set forth.

Second, the combination with piston G of sliding valve V.

Third, the nut N on the lower end of the piston G, constructed substantially as described, and arranged in relation to and operating to unscrew and lift the valve seat X, and the reverse.

Fourth, the ring *r*, as arranged in relation to the valve seat, and the piston and its rod, substantially as shown and described.

Fifth, the basket handle *h'* of the valve seat X, having a slot *s* in the same, for the purpose set forth.

No. 49,641.—W. E. MCDOWELL and CHARLES M. BAECHTEL.—Hagerstown, Md.—*Cider Mill.*—August 29, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The above-described arrangement of screw cone, provided with notches in the thread of the screw, and with the spikes *f*, in combination with the box E and teeth *e*, substantially in the manner and for the purposes set forth.

No. 49,642.—WM. R. MEARS, Grafton, Ill.—*Spading Machine.*—August 29, 1865.—In this machine there is a series of pivoted bars or rock-shafts extending from one bearing wheel to the other. To these shafts are secured the spades, and as the machine is drawn over the ground the spades are forced into the same, by the weight of the machine, and as they leave the ground, they are thrown up by a shank coming in contact with the bent axletree between the wheels.

Claim.—First, the combination of a series of pivoted revolving spade shafts or rollers *b*, and attached spades *d*, with a pair of supporting wheels *g g*, when the journals of said rollers *b* are confined in fixed and stationary bearings formed in said wheels, substantially in the manner and for the purpose herein set forth.

Second, in combination with the spade shafts or rollers *b*, rocking in stationary bearings, as described, the outer segmental levers *c c*, cam B, and guide plate *n*, all arranged and operating substantially in the manner and for the purpose herein set forth.

Third, the combination of a series of spades *d d* with a bent axle D, and the supporting wheels *g g*, substantially in the manner and for the purpose herein described.

No. 49,643.—STEPHEN C. MENDENHALL, Richmond, Ind.—*Mode of Securing Bobbins in Shuttles.*—August 29, 1865.—In this invention the rod is permanently fixed across the opening in the shuttle; the bobbin head has an annular groove and a part of the same has a segment cut away, which allows it to be passed under the rod, after which the bobbin is turned on its axis, and thus is locked by the rod lying in the groove.

Claim.—The bobbin having its head constructed as described, in combination with the wire or rod C, in the shuttle, all as and for the purpose set forth.

No. 49,644.—STEPHEN C. MENDENHALL, Richmond, Ind.—*Looms.*—August 29, 1865.—This invention consists of a bobbin with a slightly corrugated head to facilitate the operation of turning it so as to lock it in the shuttle, by means of a wire or rod also in the shuttle, past which wire the bobbin is thrust on the spindle until its flat side passes under the wire, when it is turned and effectually locked.

Claim.—First, the described arrangement for securing the reed in the lay, consisting of the rebate in the latter and the adjustable strip by which the face of the reed is fitted against the edge of the shuttle race.

Second, the combination of the ratchet wheel Y, the pawls v' v'', and the springs w, as and for the purpose described.

Third, the guide plate z, on the under side of the shuttle boxes, and forming a support for the strap y, when it is brought into action to thrust back the picker block to its place.

Fourth, the combination of the cam h, the pivoted uprights j, and the treadles f, as and for the purpose described.

No. 49,645.—ANTON MENNEL, New York, N. Y.—*Artificial Leg.*—August 29, 1865.—In this invention the artificial tibia is extended slightly below the edge of the foot, so that a positive stop is obtained, and the ankle joint rendered rigid when the leg is raised to an upright position. The situation of the pin into which the end of the spring is attached, below and a little in front of the fulcrum pin, causes the spring to slacken when the knee-joint is straightened out, thus avoiding all suddenness of action in the artificial thigh.

Claim.—First, the stop b, in the ankle joint, produced by an extension of the artificial tibia, and applied substantially as and for the purpose set forth.

Second, the arrangement of the pin m, situated below and somewhat in front of the fulcrum pin i of the knee-joint, in combination with the spring j, substantially as and for the purpose described.

No. 49,646.—AUGUST A. NEWMAN, Sparta, Ill.—*Churn.*—August 29, 1865.—This invention consists in securing the rock-shaft by a pillow-block, movable cap, and latch.

Claim.—The arrangement for the securing of the rock-shaft D, by means of the pillow-block l, the movable cap m, secured by the latch n, each and all operating in the manner and for the purposes herein set forth.

No. 49,647.—GEORGE W. PACKER, Jr., Mystic river, Conn.—*Wall Builder and Stump Extractor.*—August 29, 1865.—The nature of this invention will be understood by reference to the claim and engraving.

Claim.—First, the within-described combination and arrangement of the pyramidal frame M M′ M″, and curved reaches E1 E2, with the four wheels and their accessories, substantially as and for the purposes set forth.

Second, the employment of braces P1 P2, or their equivalents, in combination with the struts M, &c., and the curved reaches P′, &c., and arranged to be supported on wheels, substantially in the manner described, so that the braces shall aid in maintaining the curvature or arching condition of the reaches by connecting each to the struts above at one or more points, as and for the purpose herein set forth.

Third, the spherical-based rocker C, having the king-bolt D connected thereto by a loose joint, as represented, in combination with a trussed frame M, &c., and with the wheels, substantially as and for the purposes herein set forth.

No. 49,648.—WILLIAM PARTRIDGE, Philadelphia, Penn.—*Railroad Car.*—August 29, 1865.—This invention consists in providing a fender attached to a street car, to prevent accidents to persons getting on or off the same.

Claim.—First, a hinged fender or guard, when the same is kept in position by a spring, substantially as and for the purposes set forth.

Second, the combination of the supplemental frame with the hinged fender or guard, substantially as and for the purpose set forth.

No. 49,649.—ANDREW PATTERSON, Birmingham, Penn.—*Manufacture of Hoes.*—August 29, 1865.—This invention consists in forming the eye out of the blade of the hoe after it has been rolled to the proper thickness, by first making a small hole in the centre of the prospective eye, and then subjecting the plate to the operation of a couple of series of dies, the first series of which swell up a portion of the plate around where the eye is to be, to about the height of the finished eye, but of much greater diameter. The next series are made to gradually open the eye at the top, but drawing in around the base, which has the effect to bring into the construction of the eye more metal than exists in the plate within the circumference of the eye, and therefore makes it stronger.

Claim.—The improvement in the manufacture of hoes herein described: that is to say, forming the eye and the blade of one sheet of metal, previously rolled to the thickness of the intended blade, the eye being formed by the gradual action of a series of dies so operating on the substance of the said sheet of metal as to compress into the body of the eye a greater quantity of metal than previously lay within its circumference, the complete hoe being thus formed without further forging, substantially as described and set forth.

No. 49,650.—WILLIAM POLYBLANK, Cleveland, Ohio.—*Combined Strainer and Spout.*—August 29, 1865.—This invention consists in making the spout in two parts, to screw together in the middle, the upper section of the spout terminating in a slender cylinder of finely perforated metal, which enters the lower end of the spout, and passes down to the interior of the pot; by this means the straining surface is greatly increased.

Claim.—The special arrangement of the movable cylinder strainer C, with the spout or outlet D, connected to B, Fig. 2, by the screw E A, the receiving spout being soldered to the vessel, Fig. 2, when operating conjointly as and for the purpose set forth.

No. 49,651.—CALEB M. RISLEY, Woodbury, N. J.—*Mode of Securing Linchpins.*—August 29, 1865.—This invention consists of a washer placed against a wheel on an axle, and supporting two ears which project upward from it on each side of the linchpin. A sliding spring passes horizontally through these ears over the top of the linchpin, thus enclosing the latter in a kind of frame and preventing its loss.

Claim.—The washer, in combination with the sliding spring and slotted ears C C, all constructed and arranged as described, substantially as and for the purpose set forth.

No. 49,652.—ELI C. ROBINSON, Troy, N. Y.—*Heater.*—August 29, 1865; antedated August 18, 1865.—This invention consists in forming the upper part of a stove of a cylindrical air-heating chamber with double plates, and open at the bottom, and is suspended by the exit pipe at the top, fitting tightly into exit pipes of the stove. The inner plate is perforated, and into annular spaces between the two plates, pipes admit air from the outside of the stove to assist combustion. The outer plate may be perforated if desired.

Claim.—The annular-formed air-supplying apparatus B, or its equivalent device, constructed and arranged substantially as hereinbefore described, in combination with the fire or combustion chamber of stoves, in the manner substantially and for the purpose as herein set forth.

No. 49,653.—JACOB RUSSELL, Brooklyn, N. Y.—*Nail Machine.*—August 29, 1865.—This invention consists of an oscillating cutter in combination with a pair of rotating jaws and rotating and reciprocating headers; the nail plate being fed in a straight line, and the knives oscillating sufficiently to make the angles of the nails alternately upon each side. A shaft, revolving under the cutting device, and at right angles thereto, carries a pair of gripers which receive the nail from the cutters, and a pair of headers which slide upon said shaft upon each side of the griping device, and are forced alternately against the nails as they are received in the griper by cams or tappets upon the frame of the machine.

Claim.—First, the combination, in a machine for cutting and heading nails, of a pair of cutters having an oscillating motion about an axis perpendicular, or nearly so, with their cutting edges, a direct forward-feeding device, and a pair of reciprocating headers, the whole operating substantially as herein specified.

Second, two or more pairs of jaws attached to one revolving shaft of a nail-cutting and heading machine, when constructed, arranged, and operating substantially as and for the purpose herein specified.

Third, the revolving and reciprocating headers, applied and operating in combination with the revolving clamps and oscillating cutters, substantially as herein described.

No. 49,654.—CYRUS W. SALADEE, Newark, Ohio.—*Snap Hook.*—August 29, 1865.—This invention consists in giving the body of the snap a skeleton or open form for lightness and ornament, in flattening the point of the hook, and providing its under surface with an indentation for the reception of the curved end of the spring, and in some minor points of construction tending to protect the spring from the injurious action of the ring to which the snap may be fastened.

Claim.—First, the open skeleton frame A1 A1 A A A, when constructed and operating in the manner and for the purpose shown and described.

Second, spreading the point of the hook B, so as to form the projecting corners, or their equivalents X X, in the manner and for the purpose substantially as shown and described.

Third, the indentation H, or its equivalent, on the bottom side of the point of the hook B, in combination with the curved end of the spring S, in the manner and for the purpose substantially as shown and described.

Fourth, the hook E on the end of the spring D, constructed and operating in the manner and for the purpose substantially as described.

Fifth, the slot or hole F through the body of the snap, in the manner and for the purpose substantially as shown and described.

Sixth, the shoulders K and K, or their equivalents, when arranged in combination with the flattened front of the hook B and projecting corners X X, in the manner and for the purpose substantially as shown and described.

No. 49,655.—C. W. SALADEE, Newark, Ohio.—*Snap Hook.*—August 29, 1865.—This invention consists in attaching an ornamental plate to the loop end of the snap, so as to protect the spring, and also in attaching the rear end of the spring to this plate.

Claim.—First, the guard plate A, when secured to the rear end of the snap B, and protecting the spring S, in the manner and for the purpose substantially as shown and described.

Second, riveting the spring S to the under side of the guard plate A, in the manner and for the purposes substantially as shown and described.

No. 49,656.—C. W. SAYRE, Pisgah, Ohio.—*Door Fastener.*—August 29, 1865.—This device is, in construction, like a pair of stout compasses, each leg having on its inner side, near the joint, a projection, the surface near the joint being serrated for the purpose of cracking nuts. The end or feet are chisel-shaped, and can be used as a screw-driver. When used for fastening doors, one foot is placed on the floor, at an angle of about forty degrees, the other against the door at the same angle, the two legs thus being a little out of line with ach other. By then pressing on the joint and thrusting the feet into the floor and door the latter is effectually prevented from opening.

Claim.—The within-described implement as an article of manufacture.

No. 49,657.—H. F. SEHNDERS, Buffalo, N. Y.—*Horseshoe Nail Machine.*—August 29, 1865.—In this invention the nail rod is fed downward through a heating furnace in front of a stationary anvil by means of a cam geared to make one movement. As each finished nail is cut off at right angles to the face of this anvil, two sliding hammers, having faces of the contour the reverse of the sides of the finished nail, are forced against the sides of the blank simultaneously by means of springs; a third hammer works perpendicularly to the face of the anvil, alternately with the other two, by which the nail is forged. When the nail has been sufficiently hammered it is cut off by a knife moved against it at the top of the anvil by a cam.

Claim.—First, the combination of the triple hammers C C D, the two first having a simultaneous stroke against each other, and the latter an alternate stroke against the fixed die H, arranged and operating substantially as set forth.

Second, the double-beaked cams *b* in combination with the jointed arms *f f* and pressure springs *n n*, for actuating the hammers, substantially as set forth.

Third, the combination of the triple hammers C C D, springs E E E, cams *b*, with gear shafts G G G, chisel J, and eccentric *l*, all arranged and operating substantially as and for the purposes described.

Fourth, in combination with the triple hammers C C D, and the actuating parts therewith, connected to the forge B, for heating the rod for each successive nail, arranged substantially as set forth.

Fifth, the springs *o o* and feeding cam *m* on the shaft, so arranged as to hold the nail rod in position while the nail is being wrought, and to feed it forward to the hammers as each nail is finished, substantially as set forth.

No. 49,658.—HENRY B. SLIDEL, Wilmington, Del.—*Process for Treating Ores.*—August 29, 1865.—This invention consists in combining wrought-iron scrap or turnings with cast-iron scrap or turnings. The wrought scrap is melted in a suitable furnace, and a quantity of cast-iron turnings or borings or other sufficiently small scrap is added.

Claim.—Combining cast-iron turnings, or other cast-iron scrap of sufficiently small size, with wrought-iron scrap or turnings to form an aggregated mass, to be formed into bloom by the hammers.

No. 49,659.—N. B. SHAW and DAVID SHAW, Sanbornton, N. H.—*Friction Match Composition.*—August 29, 1865.—This composition consists of thirty parts of chalk, sixteen of glue, six parts of phosphorus, and thirty-two parts of acetic acid.

Claim.—The new or improved liquid match composition, made of the materials substantially as described.

No. 49,660.—WILLIAM SHAW, Hudson, N. Y.—*Adjustable Window Stop.*—August 29, 1865.—In this invention a thimble or bushing with an elongated slot is inserted in the strip or stop with said slot transversely to the length of the strip. Through this slot passes the screw which secures the strip to the jamb, and allows it to be adjusted to or from the sash the distance of the unoccupied length of the slot.

Claim.—The box or thimble with the elongated opening or slot B inserted into the stop or bead, and through which slot B the screw A passes into the jamb, whereby the said bead or stop is made adjustable relatively to the sash, in order to maintain the requisite fit or tightness as described.

No. 49,661.—PAUL SINNHOLD, St. Louis, Mo.—*Combined Seed Planter and Cultivator.*—August 29, 1865.—In this invention the whole frame is balanced on a single wheel, while the draught cords and the handles form two triangles, the apex of which are in the axis of the wheel, by means of a ball and socket joint.

Claim.—First, the combination and arrangement of the wheel A with the handles *f f* and with the draught cords *h h*, the same forming two triangles, whose apexes are in the axis of A, and, by the application of power at their bases *f f h h*, acting to preserve the correct equilibrium of the entire machine.

Second, the adjustable central joints or bearings of the beams C C in combination with a supporting axle B, or its equivalent, all being constructed and arranged to operate substantially as and for the purposes set forth.

Third, the arrangement and combination of the draught attachments, comprising the adjustable ring nuts *g'*, adjustable eye bolts *i i*, or their equivalents, and the cords, rods, or chains *h h*, substantially as and for the purposes herein set forth and specified.

No. 49,662.—PETER SMITH, New York, N. Y.—*Boiler Furnace.*—August 29, 1865.—This invention consists in the arrangement of a damper placed underneath an air-contributor in such a manner that it will open by its own gravity, and be closed by means of a chain acting on a crank placed upon the shaft to which the damper is secured.

Claim.—The arrangement of the regulating valve C in connection with the air-distributor B, to open by gravitation and to be closed by a lever *c* and chain *d*, or its equivalent, substantially as herein specified.

No. 49,663.—WM. M. STUART, Newark, N. J.—*Fishing-line Reel.*—August 29, 1865.—In this invention the reeling device consists of a longitudinal spool operated by bevel gear, capable of engagement and disengagement, all placed within the handle, the line passing through the fishing rod and through the tubular shaft of the gearing to the spool upon which it is wound.

Claim.—First, the arrangement of the mechanical devices herein described for winding a line upon a suitable reel or spool, operating together substantially in the manner and for the purposes set forth.

Second, connecting and disconnecting the reel from its driving shaft by means of a frame *t2*, so constructed and arranged in combination with the spring *k2* on the reel as to interlock the catch *g2*, or withdraw it from the shaft slot *l*, substantially as described and for the purpose specified.

Third, passing the line or cord through the centre of the fishing pole to the reel or spool, for the purpose described.

No. 49,664.—F. W. TILTON, Bristol Station, Ill.—*Apparatus for Cooling Sirup, &c.*—August 29, 1865.—This invention consists of a vessel placed over a tank for containing the cooled sirup and containing an annular vessel which reaches nearly to the bottom of the vessel. A pipe supplies the vessel with cold water, and there are pipes for discharging the sirup from the vessel.

Claim.—First, the annular vessel G, supported in the tank B, at a little distance from the bottom, and arranged relatively to the receiving pipe *b*, and to the discharging pipe C, substantially in the manner and for the purposes herein set forth.

Second, the combination of the annular vessel G, the tank B, cold-water induction *b*, and eduction C, with the sirup reservoir A and pipes I and J, and suitable controlling means *i j*, substantially as herein specified.

No. 49,665.—AUGUSTUS TUFTS, Malden, Mass.—*Lantern.*—August 29, 1865.—This invention consists in a mode of coupling the top and bottom of the lantern to the glass globe without cement.

Claim.—The construction of a lantern, substantially as and for the purpose specified.

No. 49,666.—ALBERT TYLER and G. F. KENDALL, Fitchburg, Mass.—*Steam Cock.*—August 29, 1865.—The object of this invention is to allow the water of condensed steam to pass from the prismatic chamber and from around the valve stem. Its novelty consists in the arrangement of the prismatic chamber within the key above another chamber, the head, and a passage.

Claim.—First, the arrangement of the prismatic chamber *k* within the key C above the chamber *n*, with the head *l* projecting from the valve stem, substantially upon the principle and in the manner hereinbefore set forth.

Second, the combination of the passage *v* with the chamber *n* and the chamber *k*, arranged as described.

No. 49,667.—H. H. WEBSTER, Claremont, N. H.—*Cultivator.*—August 29, 1865.—In this invention the cultivator frame swings freely on four adjustable chains underneath the axle; the front ends of this frame are pivoted to short shafts that are themselves pivoted to the draught shafts near their ends. A device for holding and releasing the end of the lever used in raising ploughs is also employed.

Claim.—First, the shafts A, chains C and D, and cultivator B, combined and arranged substantially as described and for the purposes specified.

Second, the spring *m*, lever *n*, and slotted standard L, when used for the purpose herein set forth, substantially as described.

No. 49,668.—WILLIAM WHARTON, Jr., Philadelphia, Penn.—*Railroad Switch.*—August 29 1865.—This invention consists in the combination of the permanent rails of a main track

the rails of a turn-out, a movable switch-rail with an inclined head, and a movable guide-rail; the whole arranged and operating for the purpose of transferring cars from the main track of a turn-out without disturbing the continuity of the said main track.

Claim.—The combination of the permanent rails A and A′ of the main track, the rails B and B′ of the turn-out, the movable switch-rail D, and the guide-rail G, the whole being arranged and operating substantially as and for the purpose herein set forth.

No. 49,669.—WILLIAM N. WHITELY, Jr., Springfield, Ohio.—*Automatic Rake for Harvesters.*—August 29, 1865.—In this invention the rake is raised at pleasure in passing over the platform by means of a movable plate upon the reel shaft, which, when lifted by a lever, strikes a pin attached to the rake staff. The staves of the reel and rake are held to the guiding cam by metallic springs, and the cord which drives the reel shaft is guided by a pulley and frame attached to the frame of the machine.

Claim.—First, the plate W and lever Z, or an equivalent device, for raising the rake away from the platform without affecting the weight of the wings of the reel to prevent the removal of the gaval when desired.

Second, the combination and arrangement of the reel shaft I, plate W, flanges K K, and cam rail S, for the purpose of revolving, guiding, and controlling the action of the combined rake and reel, substantially as set forth and described.

Third, in combination with the staves of an upright revolving reel, substantially as described, the spring U, or its equivalent, to hold said staves in contact with the cam rail or guide without causing said contact to be rigid and inflexible, substantially as described.

Fourth, connecting and sustaining the rake and reel upon the platform A by means of the arm C and the braces E F and H, substantially as described.

Fifth, in combination with the rake staff M, the pendent rod V, substantially as and for the purpose set forth.

Sixth, in combination with the pulley X, the guide pulley *a*, and pin *b*, for the purpose set forth.

No. 49,670.—JOHN WILLIAMS, Shelburne, Mass.—*Try Square.*—August 29, 1865.—This invention consists in passing a metallic rod lengthwise through the beam of a try square, and attaching it at one end by a screw to the tongue. At the other end are a screw and nuts, by means of which the edge of the tongue resting in the groove made for it in the beam is drawn down upon the bottom of the groove, and upon a prolongation of a part of the beam, and is firmly secured and properly adjusted to the same.

Claim.—The mode of attaching the tongue B to the beam A by means of the rod *g* and nut *a*, arranged and combined in the manner set forth.

No. 49,671.—GEORGE R. WILLMOT, Meriden, Conn.—*Stopper for Bottles.*—August 29, 1865.—This invention consists of a plug, having an opening directly through its centre, through which passes a screw, having a circular head large enough to nearly cover the bottom of the plug. The screw projects above the top of the plug, where it is fitted with a nut of proper form, to enable it to be turned easily. Between the nut and the top of the plug is a washer, which forms a bearing for the nut. The lower part of the plug is made harder than the upper part, and the exterior of said plug is covered with felt, plush, or flock, to prevent it from sticking in the neck of the bottle.

Claim.—First, attaching the tube *e* to, or forming it in, the same piece with the collar or washer *d*, substantially as and for the purpose herein specified.

Second, the stop *f*, applied in combination with the screw B and nut *c* of the stopper, substantially as and for the purpose herein specified.

Third, making the upper and lower parts of the elastic plug A of the stopper of two different degrees of hardness, substantially as and for the purpose herein specified.

Fourth, coating the exterior of the plug with flock, substantially as and for the purpose herein specified.

No. 49,672.—J. B. WINCHELL, Chicago, Ill.—*Washing Machine.*—August 29, 1865.—The invention is explained by the claims and engraving.

Claim.—First, the combination of a reciprocating rubbing board E and washboard D, with a wash box, which has two apartments C C′, separated by a division board *b*, substantially as described.

Second, the arrangement of the hinged washboard D, over the apartment C′, in combination with the apartment C, substantially as described.

Third, the combination of a hinged washboard D and reciprocating rubbing board E, with the two apartments C C′, substantially as described.

Fourth, the construction of oblong bearing blocks *e e*, with rubber or metallic springs *h h*, and movable pivot connections *i i* for the arms of the rubbing board E, substantially as described.

Fifth, the inclined board D′, in combination with the hinged washboard D, substantially as described.

No. 49,673.—TOBIAS WILMER, Williamsburg, N. Y.—*Horse Rake.*—August 29, 1865.—The object of this invention is to provide a rake which shall lay the windrow in a line parallel with the direction in which the rake is drawn.

Claim.—First, the pivoted inclined teeth A A, in combination with the carrying beam B, the wheels C C1 C2, and arm or tongue D, all constructed and arranged in the manner and for the purposes specified.

Second, in combination with the above, the inclined concave E, arranged and employed substantially in the manner and for the purpose explained.

No. 49,674.—EDWARD S. BOYNTON, assignor to the French Self-fastening Button Company, New York, N. Y.—*Securing Buttons to Cards.*—August 29, 1865.—Buttons having no eyes, but secured to the cloth by means of shanks passing through the cloth and engaging in a recess on the inside of the button, are attached to show cards by means of wires passing over the backs of said cards and bending into punctures therein in such forms as to enter the recesses of the buttons in place.

Claim.—The use of a looped or coiled wire, for the purpose of securing buttons to trade-sales or show cards, substantially as hereinbefore set forth.

No. 49,675.—AARON CHASE, assignor to himself and TIMOTHY HOW, Somerville, Mass.—*Inclinometer.*—August 29, 1865.—This invention consists of three bars, provided with levels and sights and a graduated arc, the bars being so hinged together by rule joints that when opened two of them may be so extended as to fall in one continuous line, while the third, turning at their common junction, may be so elevated at one end as to form any angle with the first two, which angle may be noted on the graduated arc.

Claim.—The improved anglemeter, or inclinometer, made substantially as described, viz: of the three bars A B C. and the arc D, arranged and applied together, and provided with levels and sights, as specified.

No. 49,676.—JOHN G. W. COOLIDGE, assignor to EDWIN S. HOVEY, Portland, Me.—*Car Coupling.*—August 29, 1865.—The claim and engraving explain the nature of the invention.

Claim.—A new and improved mode of connecting and disconnecting railroad cars, called a car shackle, in manner and form as is set forth.

No. 49,677.—CHARLES CUTTICA, assignor to HENRY C. GLINSMANN, New York, N. Y.—*Table.*—August 29, 1865.—This invention consists in a table so formed in sections that it can be folded up and formed into shelves, in such a manner that dishes or other articles may remain on the table, and be contained in the closet formed by folding up the table; or articles placed in the cupboard will be found in position on the table, when the latter is turned down.

Claim.—Parallel moving sections, capable of forming a table or a series of shelves, substantially as specified.

No. 49,678.—PETER K. DEDERICK, assignor to LEVI and PETER K. DEDERICK, Albany, N. Y.—*Capstone for Working Beater Hay Presses.*—August 29, 1865.—In this invention a frame holds in stationary bearings a card cloth brush cylinder, the wire teeth being about double the length of those of the cylinder to be cleaned. The latter is placed in the machine, with its journals resting in adjustable boxes, and an adjustable spring brake is applied to each journal. The cleaning cylinder being suitably revolved, its teeth mashing into those of the one to be cleaned, cause it to revolve, the revolution being retarded by the force of the brake at will.

Claim.—First, the arrangement of the loose pulley wheel H, with the belt or strap T surrounding it, in the manner and for the purpose specified.

Second, the locking bar W, passing through the rim of the wheel H, and operating in connection with the notch *a*, in strap or band T, in the manner and for the purpose substantially as described.

Third, the combination of the inclined plane X, the notched strap, the locking bar L, arranged as and for the purpose specified.

Fourth, the bolt L, arranged so as to lock the lever I alternately to the pulley H and the clutch pulley J, and disconnect either or both by moving the hand lever.

No. 49,679.—A. A. HAWLEY, Methuen, Mass., assignor to self and ROBERT B. HAWLEY, of same place.—*Machine for Cleaning Carding Cylinders.*—August 29, 1865.—This invention consists of a brush or cleaning cylinder, covered with card clothing, the teeth of which are about twice as long as those of the cylinder to be cleaned, which latter cylinder, when it needs cleaning, is brought in contact with the former. The cleaning cylinder, having been set in revolution, causes the other to revolve, and at the same time cleanses it.

Claim.—The machine, constructed substantially in manner and so as to operate as hereinbefore described.

No. 49,680.—A. B. HENDRYX, assignor to himself, H. A. SHIPMAN, and ROBERT HOADLEY, Derby, Conn.—*Kerosene Lamp Burner.*—August 29, 1865.—This invention consists in a combination of two tongues, cut out of the metal of the dome, with the wick tube.

Claim.—First, the combination of the tongues F F with the tube A, substantially as and for the purpose specified.

Second, a dome, constructed in the manner and for the purpose specified, when combined with the tube of burners.

No. 49,681.—WARREN JOHNSON, assignor to himself and ALBERT THOMPSON, Fisherville, N. H.—*Device for Tethering Animals.*—August 29, 1865.—This invention consists in a rotary swivel, a stationary cap or post, and means of fastening the latter to the sustaining bar.

Claim.—The improvement described, it consisting of the rotary swivel or arm T, the stationary cap or post A, and the set screw S′, or equivalent means of fastening the post to the supporting bar, the pole being applied to the said arm, and the whole being arranged in manner and so as to operate substantially as hereinbefore specified.

No. 49,682.—B. MARGULIES, Trieste, Empire of Austria, assignor to JESSE and JAMES W. TYSON, Baltimore, Md.—*Manufacture of the Salts of Chromium.*—August 29, 1865; patented in England, September 6, 1864.—This invention consists in mixing finely powdered chrome ore with the materials generally used in the manufacture of the salts of chrome, and forming the mixture into blocks of convenient shape and size. These blocks are exposed to heat in a furnace, until the chrome ore is wholly or in part decomposed, after which the salts formed are dissolved with water, and the solution treated in the ordinary manner.

Claim.—The herein described process for the manufacture of the salts of chromium.

No. 49,683.—WILLIAM D. RINEHART, assignor to himself, DAVID Z. BRICKALL, and WILLIAM W. MARTIN, Pittsburg, Penn.—*Iron for Strap Joints.*—August 29, 1865.—This invention consists in rolling bars of iron of suitable sizes for each kind of blank, strap, gib and key, into the proper shape; several of the same kind connected, forming a bar of convenient length for handling and transportation. The blanks are separated from the bar as used.

Claim.—A new article of manufacture, to wit: iron for strap joints, consisting of strap, gibs and key, said iron being rolled in the form herein described and represented, and for the purpose set forth.

No. 49,684.—NATHANIEL B. WEBBER, Paoli, Ind., assignor to himself and THOMAS B. JACKSON, Orange county, Ind.—*Washing Machine and Wringer.*—August 29, 1865.—This invention consists of a drum or cylinder, on the outer surface of which the others are secured by a clamp. The cylinder revolves in a concave bed of rollers; the journals of the cylinders are placed in slides and attached to levers by chains to regulate the pressure of the cylinder upon the concave bed of rollers. A small roller is placed near the surface, and the pressure thereon is regulated by slides, chains and levers, for expressing the water from the clothing.

Claim.—The slides H, cleets I, chains M, pulleys L, and roller P, when arranged and combined as herein described, and for the purpose set forth.

No. 49,685.—CHARLES BADIN, Paris, France.—*Mode of Diminishing Friction.*—August 29, 1865.—This invention consists in resting the journal, or other piece of machinery of which it is desired to diminish the friction, upon a sort of rotating plate by means of a collar, either forming part of the axle or attached thereto.

Claim.—First, the combination of the collar H on the axle, with the movable plate B, supported by the perforated balls C C C, revolving upon a fixed plate A, and held to their places by the arms D D, all arranged in the manner and for the purposes above described.

Second, the mode of piercing the said balls, so that the arms D D D shall have only one point of contact therewith, in the manner and for the purpose above described.

No. 49,686.—CHARLES DION, Montreal, Canada.—*Fire Alarm.*—August 29, 1865.—This invention relates to an apparatus, the operation of which is based upon the contraction and expansion of a coiled spring, composed of two different metals.

Claim.—First, the adjustable segmental plate G, bearing the composition spring H, index F, and scale I, in combination with the alarm movement B, constructed and operating substantially as and for the purpose described.

Second, the stop lever *h*, tripping lever K, stop lever *l*, trip lever *m*, trigger *d*, and swinging lever *c*, in combination with the index F, scale I, and alarm movement B, constructed and operating substantially as and for the purpose set forth.

Third, the use of a system of tubes, extending from different places or rooms in a house or building to a single central position, in combination with balls which are held in said tubes by stops that are released by the action of the metallic thermometer, either when the temperature rises above or sinks below a certain point, substantially as and for the purposes set forth.

No. 49,687.—JOSEPH KOBERIE, Kingdom of Bavaria.—*Die Stock.*—August 29, 1865.—This invention consists in forming the stock of two parts, hinged together at one end, the other end of each forming a handle. In the inner side of each piece or jaw, near the hinge, a recess is made to admit the dies by which the thread is cut.

Claim.—The several parts, arranged and employed as described.

No 49,688.—EDWARD SNELL, London, England.—*Anchor.*—August 29, 1865: patented in England July 22, 1864.—This invention consists in the addition of horns at the hinge or turning points of double-grip anchors, by which, the anchor lying on the holding ground, the palms or ends of the shank are turned downward, and thus they are made to enter upon and penetrate into the holding ground.

Claim.—The adaptation to the movable arms of double-grip anchors of four horns, which cause the anchor to lie on the ground in the right position, and compel the palms or ends of the arms to enter or penetrate the ground and take hold at once; the dispensing with a stock or sector, great holding power, lightness, facility of stowage, non-liability to foul, and facility of withdrawal from foul ground or obstructions, as herein set forth.

No. 49,689.—JOHN IVES VAUGHAN, London, England.—*Apparatus for the Continuous Distillation of Petroleum, &c.*—August 29, 1865; patented in England October 11, 1864.—This invention consists of a series of chambers placed one above the other, the lower one communicating with the vessel. Steam is admitted, and passes up through the pipes into the chambers, being compelled, by means of hoods, to descend in its passage, and enter the chambers beneath the surface of the liquid contained therein. The chambers are partially filled with the liquid to be distilled, the pipes distributing the liquid from the top to the bottom chamber of the series. Holes are bored in the sides of the chambers for the insertion of the cocks, by means of which the residuum in each chamber may be withdrawn.

Claim.—First, the treatment of resins and resinous substances by continued or connected operations, whereby the spirit is distilled from the crude substances, and the residual resin volatilized or distilled into a product which becomes solid at the ordinary temperature of the atmosphere without packing or cooling the resins between the operations, as hereinbefore substantially set forth and described, or any mere modifications thereof.

Second, the construction, combination, arrangement, and method of working of the apparatus for the continuous distillation of resin and resinous substances, coal, petroleum, bone, oil, paraffine, and other analogous acids and hydrocarbons, as hereinbefore substantially set forth and described, or any mere modifications thereof.

No. 49,690.—NATHAN ADAMS, Altoona, Penn.—*Machine for Drawing Spikes.*—September 5, 1865.—This invention relates to a device more especially designed for drawing railroad spikes, and it consists in the employment of a sliding stock, in connection with jaws or nippers, and a lever, all arranged in such a manner that the desired work may be performed expeditiously and without bending or injuring the spikes, so that the latter may be again used.

Claim.—The sliding stock D, operated by the eccentric E, and lever F, or their equivalents, in connection with the jaws or nippers C C, pivoted to the eye *b* on the guide rod H of the stock, all arranged to operate in the manner substantially as and for the purpose set forth.

No. 49,691.—CHARLES T. BAINBRIDGE, Brooklyn, N. Y.—*Machinery for Plating or Finishing Sheets of Paper.*—September 5, 1865.—In this invention the sheets are compressed and received between two flexible sheets of highly polished copper, each of which passes over a roller, the two rollers being tightly compressed together. The ends of the copper sheets are sustained by cords and weights, so that they may be moved forward to feed and polish, and backward to discharge, the paper.

Claim.—First, the flexible plates *i i'*, applied and operating in combination with a pair of pressure rollers, substantially as and for the purpose herein specified.

Second. the weights E F F', attached to the ends of the flexible plates *i i'*, and operating substantially as and for the purpose herein specified.

Third, the combination of the flexible plates *i i'*, pressure rollers B B', weights E F F', feed board *n*, and delivery board *p*, the whole arranged and operating substantially as and for the purpose herein specified.

No. 49,692.—N. B. BALDWIN, Georgetown, Ill.—*Sawing Machine.*—September 5, 1865.—This invention consists in hanging a saw upon parallel rods, and holding it in position by spiral springs, so that either or both ends of the saw may yield when too much pressure is applied.

Claim.—The combination of the guide rods J J', and springs L L, with the saw K and frame D, as and for the purposes specified.

No. 49,693.—THOMAS T. BARBER, Hampton, Conn.—*Road-making Device.*—September 5, 1865.—This invention consists of a combination of draught-gear, two gangs of ploughs and scrapers converging towards the centre, and a harrow, with all the convenient appendages, included in one implement, whereby the ground may be ploughed along both sides of the road, the loosened soil scraped so as to be regularly crowning, and the central part smoothed, all at one operation.

Claim.—The combination of the two gangs of ploughs and the draught gear with the scrapers, when the whole is constructed and fitted for use substantially as herein described and set forth.

Second, the combination of the scrapers with the harrow, when both are constructed, connected, and fitted to produce the result of scraping and levelling, substantially as herein described and set forth.

No. 49,694.—H. F. BARTLETT, La Grange, Mo.—*Evaporating Pan.*—September 5, 1865.—This invention consists of a pan composed of three compartments, each compartment being constructed with flanges, which serve to prevent the juice from boiling over. A compartment is arranged to collect the scum. An air-tube passes transversely under each compartment, and directly over the fire-chamber is placed a plate which may be used when desired.

Claim.—First, the pan provided with flaring or inclined flanges *a* around the vertical sides, and with terraced bottom and partitions, arranged substantially as and for the purpose herein set forth.

Second, the side or scum chambers E, the bottoms of which are a little higher than that of the pan communicating with any or all of the compartments of the same, substantially as and for the purpose specified.

Third, the transverse air tubes F, placed in the upper part of the furnace underneath the pan, immediately in front of the sloping portions of the bottom, as and for the purpose specified.

No. 49,695.—A. ELY BEACH, Stratford, Conn.—*Railroad Car.*—September 5, 1865.—This invention is chiefly designed for use in connection with railroad cars that are to be propelled by means of a traction cable which moves along upon or below the surface of the ground, or in channels therein, the said cable being arranged to move under the car.

Claim.—The employment of a cable-seizing device, constructed and operating substantially as herein shown and described.

No. 49,696.—A. ELY BEACH, Stratford, Conn.—*Draught Cable for Railroad.*—September 5, 1865.—This invention is chiefly intended for use in the propulsion of railroad passenger cars in cities, but may also be employed for every species of traction or wherever a moving cable is required.

Claim.—First, the construction of the links of a draught cable, substantially as herein described.

Second, the combination of the friction wheels with said links, substantially as herein described.

Third, the serrated comb or back, constructed and employed as herein set forth.

Fourth, the combination with a draught cable of a scraper, substantially as described.

No. 49,697.—A. ELY BEACH, Stratford, Conn.—*Sliding Draught Cable for Railroad.*—September 5, 1865.—This invention is designed to facilitate the propulsion of railroad cars in cities where the use of horses and of locomotives cannot be advantageously applied. The improvements are, however, applicable for all purposes to which draught can be adapted.

Claim.—First, the combination of a cable and a supporting surface, substantially as described, so that the rubbing surfaces will be protected by the cable.

Second, the suspension of draught cables upon sliding ears or bars, substantially as described.

Third, the combination of the supporting frames with the cable, substantially as described.

Fourth, the construction of the wall or walls of the groove or channel in which the cable runs, with grooves and bearings to receive and support the cable or the case thereof, substantially as described.

No. 49,698.—A. ELY BEACH, Stratford, Conn.—*Track for Railroad.*—September 5, 1865.—The object of this invention is to facilitate the propulsion of railroad cars and other vehicles by means of stationary engines, and in cities to dispense with the use of horses for drawing cars. With this object in view, a traction cable is made use of for propulsion of the cars, which in cities it is proposed to arrange or cause to be moved below the surface of the ground, in a narrow groove made in the railroad, or under the rail, or at any suitable position below the surface.

Claim.—The construction of tracks for railroads and draught cables, or for draught cables only, substantially as herein shown and described.

No. 49,699.—A. ELY BEACH, Stratford, Conn.—*Mode of Transmitting and Delivering Letters, Packages, &c.*—September 5, 1865.—This invention consists of an endless belt or chain, provided with receptacles to contain the packages, which belt is enclosed in a proper tube or case, under or over ground, driven by suitable motive power, the line being provided with suitable receiving and distributing stations.

Claim.—The employment of an endless chain or belt of troughs, pouches, conveyors, or receptacles, moving through tubes or channels, constructed and operating substantially as described, for the transportation and delivery of letters, packages, and all kinds of freight.

No. 49,700.—BENJAMIN F. BEE, Harwich, Mass.—*Instrument for Throwing Dice.*—September 5, 1865.—This invention consists of a small wooden or leathern cylinder for holding

dice, in the bottom of which are fixed upright wires of the same height, enough to sustain dice upon their tops. A disk is arranged to play up and down upon these wires, and is operated by a spring in such manner as to be thrown up smartly against the dice sustained upon the tops of the wires, and throw them upward out of the dice-holder.

Claim.—The perforated disk A and wires *a d*, the same being combined and operated substantially as set forth.

No. 49,701.—J. R. BENNETT and P. W. BIRCK, Brooklyn, N. Y.—*Table and Bedstead Combined.*—September 5, 1865.—This invention consists in the combination of a table with a bedstead, so that the device may, with the greatest facility, be adjusted to serve as a table or bedstead, and answer as well in either capacity as if made separately for each.

Claim.—The slatted frames H H, table top composed of the two parts D D, connected by end pieces E E, which are provided with deviating projections *b*, to work in dovetail grooves *a*, in the upper edges of the bars B of the table frame, substantially as herein shown and described.

No. 49,702.—LOUIS BILLON, Brooklyn, N. Y.—*Metallic Collar.*—September 5, 1865.—In this invention bifurcated holders are attached to the collar, one at the back and one at the front, which are adapted to fastening the collar to the buttons of a shirt.

Claim.—A collar adapted for attachment to the shirt buttons by means of the auxiliary bifurcated piece A, substantially as shown and described.

No. 49,703.—LOUIS BILLON, Brooklyn, N. Y.—*Metallic Shirt Bosom.*—September 5, 1865.—In this invention a shirt bosom is formed of several vertical sections of flexible material, fastened together at their sides by buttons and button holes, and adapted to be taken apart. These sections or strips are corrugated in the direction of their length, and embossed to represent stitching.

Claim.—As an article of manufacture, a flexible enamelled shirt bosom, made up of detachable sections, easily separated and held together in the manner described, having longitudinal corrugations, the whole constructed and operating substantially as described and for the purpose set forth.

No. 49,704.—L. H. BOWMAN, Norristown, Penn.—*Oil Drill.*—September 5, 1865.—The object of this invention is to produce a drilling apparatus which will remove broken and pulverized rock from the bore of a well, and collect it in the drill rod, at the same time discharging the water from the rod, so as to allow the heavier matter to be retained in the rod, until the receptacle there provided for them is filled.

Claim.—First, forming a supplementary chamber J, within the walls of a tubular drill rod, for receiving the detritus of the rock and other heavy matter from the chamber next above the valve, substantially as described.

Second, the combination of the central tube C, communicating at top with the annular surrounding chamber J, with the water-discharging tube C′, substantially as described.

Third, the combination of the annular detritus chamber J with the water-discharging chamber C′, substantially as described.

No. 49,705.—J. F. BOYNTON, Syracuse, N. Y.—*Gas-light Multiplier.*—September 5, 1865.—This invention consists of a metallic case provided with a number of wedge-shaped perforated partitions. The partitions are made of light absorbent wood, and strands of cotton wick are passed through the perforations.

Claim.—First, in an apparatus for carburetting gas for illuminating purposes, the use of partitions of wood, placed so that the grain shall stand vertically when those partitions are constructed with a wedge-like shape, having their lower ends thicker than their upper, substantially as described.

Second, in an apparatus of the kind above contemplated, the use of cotton wicking, or other equivalent material, so arranged and contrived that the capillary pores shall be all the while rapidly increasing as the fluid hydro-carbon becomes less volatile, substantially as and for the purpose described.

Third, a combination of partitions, bars, and wicks, forming a movable cage setting into a box, producing a compound capillary action of porous and fibrous material, substantially as described.

No. 49,706.—J. F. BOYNTON, Syracuse, N. Y.—*Torpedoes for Oil Wells.*—September 5, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, in torpedoes for oil wells, and other like uses, the construction of the body of the cylinder of cast metal, enclosed in a jacket of sheet metal, and for the purpose substantially as described.

Second, in a torpedo, constructed as above proposed, retaining the heads in place by means of a jacket enclosing the cylinder, and soldered to the head of the cylinder, as described.

Third, the closing of a torpedo magazine with a diaphragmed chambered plug, substantially as described.

Fourth, for the exploding of a torpedo the combined use of a sheffing box and needle with the diaphragmed chamber plug, substantially as described.

Fifth, in a torpedo exploder, the use of a hammer *k*, so constructed and operated that the blow, if insufficient, may be repeated without moving the torpedo itself, by means of contrivances substantially as set forth.

Sixth, in a torpedo exploder the use of an aperture to preserve the uniformity of pressure on both sides of the diaphragm, substantially as described.

Seventh, in a torpedo exploder the use of a suitable substance spread upon the powder in the magazine beneath the liquid chamber, and in such a position that the puncturing of the liquid chamber shall cause the explosion, substantially as described.

No. 49,707.—MOSES BRATT, Maysville, Ky.—*Stove.*—September 5, 1865.—In this invention, an air-chamber communicating with the outer air is placed between the reverberating extension of the fire-chamber and the upper flue space, and is surrounded by hot-air spaces, or flues. Suitable pipes convey the air from this chamber as desired; another air-chamber is located behind the grate and supplied with outside air, and through side air spaces or flues communicate with flue spaces in the top of the stove. Through a narrow opening in the back of the grate, air is admitted from the rear chamber into the reverberating extension of the fire-pot.

Claim.—First, the arrangement in an open or fireplace stove of an air-chamber K, communicating with the outer air and with the air of a room, between the fire-chamber or the reverberating extension thereof and the upper flue space, when the said chamber is also surrounded laterally by flue or hot-air spaces, substantially as above described.

Second, the air-chamber F, located behind the fireback *b*, and connected with the side air spaces *g g*, and communicating with the fire chamber by means of the opening E, and extending upward behind the box M, to the flue P, substantially as and for the purpose above described.

No. 49,708.—MORRIS W. BROWN, Morrisania, N. Y.—*Compositions for Enamels, Paints, &c.*—September 5, 1865; antedated August 22, 1865.—This invention consists in preparing enamels, paints, varnishes, &c., by combining soluble silicates with pulverized marble, white oxide of zinc, clay, and other substance.

Claim.—First, a composition of matter, formed and prepared from ground or pulverized marble or natural limestone, and an alkaline silicate as a base, substantially as set forth, for purposes of an enamel cement and plaster.

Second, the use of a carbonate of lime, white oxide of zinc, and silicate of alumina in the base of the composition of matter, for the purposes of a paint, enamel, and cement, substantially as set forth.

Third, the mode or process for the preparation of alkaline silicates preparatory to its use in the composition of matter, and for its uses as a varnish in the application of a paint, enamel, and plaster, substantially as described.

Fourth, the use and application of the different colors, and shades of color, by the mode or process of blending by concussion or otherwise into the composition of matter while the same is soft or fluid, and before the same becomes hard, substantially as set forth.

Fifth, the mode and the application of certain temperatures of heat to the articles fabricated from my composition of matter, and to metallic or earthy substance, coated and enamelled therewith, substantially as set forth.

Sixth, the use of an oil or an oil and resinous varnish over the composition of matter, after the same have become dry, in one or more coatings, substantially as set forth.

Seventh, the use and application of sand and pebbles into the composition of matter, for the purposes of a cement, &c., substantially as set forth.

No. 49,709.—GEORGE BUCKLE, Munroe, Mich.—*Cigar Machine.*—September 5, 1865.—In this invention cigars are made from sheeted tobacco, cut into strips of proper width. These strips are pressed in a round mould with the wrapper.

Claim.—The method, substantially as herein described, of producing the fillers for cigars, by first forming a sheet or felt of tobacco and then cutting up that sheet in a clamp in pieces suitable for fillers, and having wrapped these fillers in narrow strips cut from tobacco leaves, pressing them in a suitable press, as set forth.

No. 49,710.—R. F. BURNETT, New York, N. Y.—*Spirit Level.*—September 5, 1865.—In this invention the enclosing case of the vial is composed of two trough-shaped metallic boxes, arranged diametrically in an annular flange, which is so secured in a circular socket that it may be revolved therein, and set at any angle by means of spring catches taking into notches in the periphery of said flange.

Claim.—The case C, composed of two trough-shaped boxes, arranged diametrically in annular flanges, which are secured in the socket B, substantially in the manner and for the purpose set forth.

Also, the adjustable spring catches *e*, in combination with flanges *c*, case C, and socket B, constructed and operating substantially as and for the purpose described.

No. 49,711.—ASAHEL BURNHAM, Arkwright, N. Y.—*Milk Can Bottom.*—September 5, 1865.—This invention consists in making the sheet-metal bottom cone-shaped, or raised in the centre, and strengthened by ribs of the same metal, running from the centre to the circumference, where they terminate in a point, the bottoms of the opposite ribs being on the same straight line from point to point.

Claim.—Making the bottom B of the can crowning or conical in form, with radiating strengthening ribs S S on the under side thereof, in the manner and for the purpose set forth.

No. 49,712.—W. C. BUSSEY, Jackson, Cal.—*Lock.*—September 5, 1865.—This invention consists in the arrangement concentrically of a series of rings, each notched on its inner surface or edge so as to be held by a flat spring pawl attached to the periphery of the next adjacent inner ring, and also with an outwardly projecting flange. A gateway is cut through the series of flanges for the passage of a curved arm, which, being pivoted at one end to the lock case, and at about the middle of its length to the bolt, curves around so as to cross the rings at right angles, the flanges of the latter lying within corresponding notches in the surface of the arm. To operate the bolt, the gates are first properly arranged in the usual manner of setting tumblers; the curved arm is projected still further through toward the centre of the rings as the bolt advances, until finally, when the bolt shall have been projected to its full throw, the flanges upon the rings find themselves in the presence of another series of notches in the arm, into which they are permitted to enter and thus lock the bolt.

Claim.—First, the employment or use of a series of rings E E′ E″, and a cylinder E‴, provided respectively with teeth and pawls, and also with annular tumblers *g*, to operate in connection with notched arms C, through which the bolts B are moved, substantially as and for the purpose set forth.

Second, the peculiar construction of the arms C, applied to the bolts B, and arranged with the tumblers *g*, to operate in the manner substantially as and for the purpose set forth.

No. 49,713.—CLARK T. BUSH, Rensselaerville, N. Y.—*Guard Finger for Harvesters.*—September 5, 1865.—This invention consists in lining the slot of the guard finger, both above and below the knife, with metal harder than the body of the finger.

Claim.—Facing or lining both faces of the slot of the guard fingers of a harvesting machine through which the cutter vibrates, substantially as and for the purpose set forth.

No. 49,714.—ROBERT BUTTERWORTH, Trenton, N. J.—*Machine for Grinding Apples.*—September 5, 1865.—This invention consists of a cast metal cylinder provided with longitudinal boxes for the reception of cutting projections with chisel-shaped edges, in connection with a series of pressure plates provided with springs so as to enable them to yield when hard foreign substances pass through the machine.

Claim.—First, a cast-metal cylinder, provided with longitudinal boxes *a*, to receive the knives or cutters D, which boxes project beyond the ends or heads of the cylinders, to receive set screws E, for setting the knives or cutters, and securing them in position, substantially as set forth.

Second, the sectional concave, composed of plates H, provided with joints, and having springs I, bearing against their lower ends, and regulated by rods L, and nuts *h*, substantially as described.

Third, the regulating of the pressure of the spring I, against the plates H, by means of the heads or blocks J, on the fixed shaft K, and the s screw *f*, substantially as set forth.

No. 49,715.—GEORGE CALKINS, El Paso, Ill.—*Cultivator.*—September 5, 1865.—In this invention the plough beams move freely on joints at the front of the cultivator frame. Long levers fastened to the rear of each plough of the plough beams pass freely through eye-bolts underneath the axle. Other levers are pivoted to their front ends, and themselves pass through eye-bolts above the frame. These two levers are operated in the rear of one hand lever, which thus moves the ploughs, both laterally and vertically, by the movement of one hand.

Claim.—First, the combination and arrangement of the plough beams D, levers F, supports K, levers E, provided with the rods L, the cross-piece H, and frame O, when constructed and operating substantially as and for the purposes set forth.

Second, the combination and arrangement of the plough-beam levers E and F, provided with their fulcrums as described; cross-piece H, frame O, and the levers M and N, when constructed substantially as and for the purposes described.

No. 49,716.—JAMES CAMACK, Dane, Wis.—*Pump.*—September 5, 1865.—This invention is designed as an improvement upon the pump patented to D. Farnham, October 23, 1837, and consists in the substitution of caged ball valves, and their location on both sides of a transverse perpendicular diaphragm in the valve chest, over the induction port, and beneath the centrally located delivery spout and air chamber.

Claim.—The combination of the water chamber D with the cylinders A, chambers B, air chamber C, and the valves *e* and *i*, all arranged and operating as herein set forth.

No. 49,717.—G. T. CASE, Brooklyn, N. Y.—*Expanding Drills for Well Boring.*—September 5, 1865.—The object of this invention is to produce an implement or apparatus, by means of which the bottom of an artesian well or any other part thereof can be chambered out or enlarged in diameter, and consists in a tube, which carries in a chamber at its lower end a horizontal drill capable of being driven outwards beyond the periphery of the tube, in order to cut away the side of the well when the tube that carries it is rotated.

Claim.—First, enlarging the diameter of the bottom or other part of an artesian well, substantially as shown.

Second, advancing the tool D in a horizontal direction, substantially as and for the purpose above described.

Third, in combination, the tube H, the shaft B, the tool D, toothed, as described, and the hub I, substantially as shown.

No. 49,718.—CYPRIEN CHABOT, Philadelphia, Penn —*Breech-loading Fire-arm.*—September 5, 1865; antedated June 15, 1865.—In this invention a hinged or swinging breech piece, on being lifted upward, presses out the cartridge retractor, which, after drawing out the cartridge at a certain point, is allowed to spring back, and in doing so trips suddenly a pivoted arm that projects upwards beneath the cartridge and throws it out of its seat. The percussion pin, which plays in the hinged breech block, is so arranged and connected with the holding latch of the breech block that the said firing pin is either locked out of action if the latch is not safely in its closed position, or it forces the latch home before it can discharge the cartridge.

Claim.—Fifst, the combination of the withdrawer G and ejector *e*, for backing and throwing out the empty cartridge case when the ejector is detached from, but operated by, the withdrawer as it flies back, substantially as herein described.

Second, so arranging the ejector *e* with regard to the paths of the withdrawer and the cartridge case, as that its ends 2 3 shall be alternately thrown down and up by them as they pass over them, as and for the purpose herein described.

Third, so arranging the breech bolt and the striker or exploding pin as that the latter shall be locked out by the bolt should the bolt fail to shoot into its catch or keeper, as and for the purpose described.

Fourth, forcing the bolt into its keeper, if, from any casualty, it failed to shoot home by the blow of the hammer upon the exploding pin or striker before it reaches the cartridge, or simultaneously therewith, substantially as and for the purpose set forth.

No. 49,719.—F. J. CHAPMAN, Huron, Ind.—*Soda Fountain.*—September 5, 1865.—This invention consists of a vessel enclosed in a box, the space between its sides and the sides of the box being filled with ice. From the bottom of the box rises a pump cylinder, extending up through the bottom of the vessel a short distance into said vessel. The position of the cylinder above the bottom of the vessel is perforated. A piston, operated by means of a lever connected to the piston rod, works in the cylinder, and the liquid is caused to flow through the pipe by depressing the lever.

Claim.—The pump cylinder C, provided with perforated sides, and applied in combination with a vessel A, containing soda water or other liquid, and with a suitable piston and discharge pipe, substantially as and for the purpose described.

No. 49,720.—MORELL CLARK, Castalia, Ohio.—*Seeding Machine.*—September 5, 1865.—This invention consists in the application of teeth for covering the seed, whereby said teeth are prevented from becoming choked or clogged with weeds, trash, &c., and in connecting therewith a seed-distributing device, whereby the seed is prevented from clogging in the box, and is consequently evenly distributed, and the amount of seed to be sown on a given area regulated as desired.

Claim.—The frames F, attached to or fitted upon the shaft E, and provided with the shafts J, having teeth arms K attached, and the bars M, in connection with the catches N, all arranged to operate substantially as and for the purpose set forth.

Also, the adjustable perforated plates P P, in connection with the perforated bottom *a* of the seed box and the biconical tubes O, provided with the internal cones *c*, substantially as and for the purpose specified.

Also, the rods R passing through the tubes O, provided with the heads or caps S, and vibrated as shown to insure the free discharge of the seed.

No. 49,721.—GILBERT H. CLEMENS, United States army.—*Saw Mill.*—September 5, 1865.—This invention relates to the construction of a head block in saw-mills, and consists in providing two sets of devices to one knee, whereby it is set forward or back with greater or less speed and power, or each knee may be set so that tapering lumber may be sawed and operated by a single wheel driving two fed screws of different pitch, and attached to the knee by a half nut, that may or may not be in contact with the screws, at the option of the attendant.

Claim.—The provision upon each head block of the two sets of setting apparatus C E *e e'* M C' F' *e e'* M', operated alternately and with unequal speed from a high band wheel, substantially as set forth.

No. 49,722.—JOHN COCHRANE, Wall Township, N. J.—*Railway Chair.*—September 5, 1865.—This invention consists in placing between the top of the flange of the rail and the under side of the chair clamp a peculiarly shaped spring, the form of which is shown in the engraving, to prevent vibration of the joint or ends of the rails.

Claim.—The combination of a spring or springs with the rails and chair, or coupling, so as to prevent looseness of the joints, substantially as described.

No. 49,723.—EARLE D. COFFEE, Holliston, Mass.—*Boot.*—September 5, 1865.—This invention consists in making the outer sole of a tap boot or shoe of separate pieces, so that the shank piece shall be overlapped by each piece of the other two, and in filling the intervals with materials cheaper than leather, as usually employed.

Claim.—The improved mode of making the outer sole of a tap boot or shoe, viz: of the separate pieces *a b c*, the welts *d e*, and the fillings *f g*, arranged and applied together and with respect to the insole *h*, substantially as described.

No. 49,724.—CHARLES CONRADT, Philadelphia, Penn.—*Ice Pitcher.*—September 5, 1865.—This invention consists in combining with an ice pitcher an encircling stand in such a manner that while the stand supports the pitcher, the latter can be readily and safely rotated in either direction or tilted forward for the purpose of pouring out water.

Claim.—Combining with an ice pitcher A a stand or support B, so that the same will operate together, substantially in the manner described and set forth, for the purposes specified.

No. 49,725.—W. C. CORNWELL, Scranton, Penn.—*Packing Ring for Piston Rods.*—September 5, 1865.—This invention consists in the combination of a metallic case to fit in the cavity usually formed in the piston head for the reception of fibrous packing, and the rings placed within such case, and the follower which covers said case, and keeps the ring in position. The rings are so made that the outer one, which is the full width of the chamber in the case, covers the inner ring, which is in two sections, in reference to its width, each section being held in position by pins, so that the joints in the inner ring are curved by the outer ring, thus preventing leakage of steam. The inner end of the case is provided with holes, through which steam is admitted into it in such a manner as to surround the outer ring, and thus press the whole closely upon the rod.

Claim.—The box A, containing a wide split ring *a* and two narrow split or sectional rings *b b'*, in combination with the follower B, and with holes *d*, admitting steam to the outer surface of the ring *a*, substantially as and for the purposes set forth.

No. 49,726.—CHARLES COOK, Winsted, Conn.—*Axle Box.*—September 5, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—As an improved article of manufacture, a box for the axle of vehicles, constructed of wrought iron, with a true or finished interior surface, and hardened by the usual case-hardening or steel-converting process, substantially as set forth.

No. 49,727.—MOSES G. CRANE, Boston, Mass.—*Match Card.*—September 5, 1865.—The object of this invention is to cut match splints so as to save all the wood, and in cutting from a ribbon of wood of suitable width the match splints, so that they can be readily separated from each other, and at the same time be cut into cards of the size desired to be sold as an article of manufacture.

Claim.—As a new article of manufacture, match cards, having a construction substantially as described.

No. 49,728.—CLAY CRAWFORD, East Cleveland, Ohio.—*Steam Generator.*—September 5, 1865.—This invention consists first in arranging the tubes through which the heated products of combustion pass below the grate, so that the air which is admitted for supporting combustion shall pass down through the fuel on the grate, the object being to effect the more perfect combustion of the gases proceeding from the burning fuel; second, in arranging the tubes on which the fuel rests, and which serve the grates, in an inclined position, with reference to the fire tubes and the cylinder of the boiler, so that a free circulation of the water through the grate tube is insured.

Claim.—So arranging the tubular grate bars *b*, in relation to the flues *a* and fireplace and draught, that the products of combustion in said fireplace will pass down from the top around the grate pipes in accordance with the direction of the draught, substantially as and for the purpose set forth.

Also, the grate pipes and flues, when arranged in relation to each other and the boiler, substantially as and for the purpose set forth.

No. 49,729.—RICHARD R. CROWE, Chicago, Illinois.—*Table.*—September 5, 1865.—This invention consists in constructing a table in combination with a chest of drawers in such manner that it may be folded down so as to occupy a very small space and be readily moved from one room to another, or unfolded so as to make a very large table, or folded so as to make a table of any desired size.

Claim.—The combination and arrangement of the table top A with the leaves B C D E and auxiliary leaves F G H I, operating as and for the purposes shown and set forth.

No. 49,730.—H. D. DANN, Waupun, Wis.—*Seeding Machine.* -September 5, 1865.—In this invention the saw-teeth-shaped cells are adjusted by a rod and lever, the entire series at once. The seed tubes are suspended on pivots, so that they may always hang in a vertical position while the machine is passing over uneven ground.

Claim.—First, in combination with the parts M and N, forming the seed cells of a seeding machine, the rod R, arms T, and lever S, arranged and operating substantially as described.

Second, the seed tubes J, suspended from the frame of the machine, so that they may at all times hang in a vertical position, substantially as described and for the purpose set forth.

No. 49,731.—J. N. DAVIS, Georgetown, Ohio.—*Seat for Water Closet.*—September 5, 1865.—This invention consists in pivoting the seat so as to adapt it to the position desired by the sitter. It is so arranged as to prevent any other than a sitting posture.

Claim.—A water-closet seat hung upon a fulcrum, and having a suitable guard frame attached to it, all substantially as described and for the purpose specified.

No. 49,732.—THEODORE D. DAY, New York, N. Y.—*Joints of Skirt Hoops.*—September 5, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—A clasp for the hoops of skirts, formed substantially as specified, so that it will fold inward or turn, but will not fold outward, as set forth.

No. 49,733.—O. P. DILLS, Falmouth, Ky.—*Plough.*—September 5, 1865.—In this invention a small arm is pivoted at the front end of the plough beam, and carries a caster wheel. The said arm is adjusted upon a rack at the driver's seat, and elevates or depresses the caster wheel. A rigid arm extends out at right angles to the plough beam, carries a seat, and is furnished with caster wheels for its support.

Claim.—The adjustable bar F, with the wheel I, rack J, wheel D, and standard C, in combination with the rigid arm B, all constructed and arranged substantially as shown and specified.

No. 49,734.—CASPER DREHER, Detroit, Mich.—*Releasing the Tail Board of Wagons.*—September 5, 1865.—The object of this invention is to provide a simple device for instantly and effectually releasing the board of wagons, and it consists in the employment of a rock shaft extending across the tail board of the wagon, and provided with tappets on its ends, which bear against the noses of the spring catches that are usually employed for holding up the tail boards of wagons in such a manner as to throw them up whenever the rock shaft is turned by a hand lever attached to it for that purpose.

Claim.—First, the rock shaft E, provided with the tappets *b* and lever *a*, or their equivalents, substantially as and for the purpose specified.

Second, the combination of the rock shaft E, tappets *b*, lever *a*, and spring catch D, substantially in the manner shown and described.

Third, the tappets *b*, when connected to a suitable rock shaft, and arranged to operate substantially as herein shown and described.

No. 49,735.—ALFRED EDWARDS, Chicago, Ill.—*Animal Trap.*—September 5, 1865.—This invention consists in a self-setting trap, a movable platform closing the door on the entrance of the rat or other animal, and his passage into a second apartment, operating on a lever by means of an inner door, serving to reopen the outer door. A tube attached to the operating lever, and opening into a cup at either end for holding mercury, serves by its oscillation to hold said lever in either its closing or opening position.

Claim.—First, the combination of the lever E, sliding door *y*, uprights J, and movable platform K, arranged and operating substantially as and for the purposes herein set forth and shown.

Second, the combination of the cups F F, and tube H, containing fluid as described, with the lever E and slide *y*, arranged and operating as and for the purpose set forth.

No. 49,736.—B. F. ELLS, Dayton, Ohio.—*Machine for Making Paper Bags.*—September 5, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The employment of the block A, and the folders *c*, *d*, *e*, *f*, constructed, arranged, and used as and for the purposes specified.

No. 49,737.—D. R. ERDMANN, Philadelphia, Pa.—*Device for Removing Cars from the Track.*—September 5, 1865.—This invention consists of a portable bar adapted to a railroad track in order to remove cars from the track, and to enable the wheels on one side of a car to ride over and across the tread of the rail when the car has to be transferred from the track to the street.

Claim.—The portable bar A, with its inclined flange *a*, and curved shoulder *b*, and having projections *e e*, or their equivalents, the whole being constructed and adapted to a rail, substantially as and for the purpose herein set forth.

No. 49,738.—J. M. EASTABROOK, Worcester, Mass.—*Measuring Funnel.*—September 5, 1865.—In this invention an arched bar extends over the top of the funnel; through its centre passes the valve stem; on this stem are small disks, indicating the quantity of liquid in the funnel at any time when the valve is closed. To lift or close the valve the stem is turned by its handle, when a projection from it ascends or descends an inclined slot in the collar ascending from the bar.

Claim.—A measuring funnel, provided with a central stem and valve, which rises and falls by the action of a spiral groove, said stem being furnished with a series of marks, substantially in the manner and for the purpose set forth.

No. 49,739.—LEVI S. FALES, Boston, Mass.—*Process for Distilling Petroleum.*—September 5, 1865.—This invention consists in the distillation of petroleum by means of a current of heated air circulating through the upper part of the still, which produces evaporation, and carries the vapor of the oil over to the condenser. The air is forced through a coil, which passes through a furnace and enters a still, where it terminates in two branch pipes. One of these branches is furnished with a rose, and the other is formed into a coil which extends to the bottom of the still, and terminates on the outside.

Claim.—First, the distillation of crude petroleum or other oils by heat applied above the surface, through the medium of a current or currents of air circulating through the upper part of the still, substantially as herein specified.

Second, the combination, substantially as described, of a still, an air pump or blower, an air-heating furnace, a rose, or other air distributing device, and a pipe for conveying air from the said pump or blowers through the said furnace to the said distributing device, the whole operating as and for the purpose herein specified.

No. 49,740.—LEVI S. FALES, Boston, Mass.—*Method of Setting Stills.*—September 5, 1865.—This invention consists of a still, supported at the bottom by ledges in the enclosing walls, and also by the partitions. The furnaces are situated at each end between the partitions and outer walls. The heat from the furnaces passes into the passages, and from these passages into the chamber, and then through into the chimney, which is situated between the two furnaces.

Claim.—The combination, under one retort, of two furnaces D D, two parallel partition walls C C, which partly support the bottom of the retort, and a central or intermediate return flue I, common to both furnaces, and forming their communication with the chimney, the whole constructed and arranged within the enclosing walls of the still substantially as and for the purpose herein set forth.

No. 49,741.—DAVID J. FARMER, Newark, N. J.—*Skate.*—September 5, 1865.—This invention consists of a scroll, in combination with radially-sliding hooks fitted into the heel plate or toe plate, or in both; and also in a spring catch, in combination with the heel or toe plate, or both, and with the revolving scroll plates.

Claim.—First, the use of a scroll D or D′, in combination with radially-sliding hooks fitted into the heel plate or toe plate of a skate, or in both, substantially as and for the purpose described.

Second, the application of a spring catch *g*, in combination with the heel plate or toe plate, or with both, and with the revolving scroll plate D D′, substantially as and for the purpose set forth.

No. 49,742.—BENJAMIN F. FARRAR, Springfield, Mass.—*Railroad Rail.*—September 5, 1865.—This invention consists in interposing between the ends of the rails a wedge-shaped piece of metal, the rails being cut to conform to the shape of the wedge; this wedge, by means of its connection to the chair and springs, is easily adjustable to conform to the contraction and expansion of the rails, and prevents the abrasion of the ends of the rails by reason of the concussion of the car wheels thereupon.

Claim.—The combination of the rails *a a*, piece A, spring or springs B, and chair D, substantially in the manner and for the purpose described.

No. 49,743.—C. J. FISHER, Waukon, Iowa.—*Horse Collar.*—September 5, 1865; antedated August 27, 1865.—This invention consists in constructing a horse collar with a wooden front portion, the rear being of leather or other flexible material, said wooden parts being provided with a leather yoke or pad, and connected by a strap, and the yoke being secured to the two wooden pieces by bolts passing through bars, and making them adjustable.

Claim.—First, the wooden front parts A A of the collar, connected at their upper ends by a yoke or pad B, of leather or other flexible material, substantially as set forth.

Second, the attaching of the yoke or pad B to the wooden pieces A A by the bolts *b*, in connection with the bars C C, substantially as and for the purpose specified.

No. 49,744.—J. W. FOARD, San Francisco, Cal.—*Paper Holder.*—September 5, 1865.—In this invention the paper is held, as usual, between two strips of wood by pins fastened in one, and slipping into holes in the other; the pins are secured in place and held together by clamp screws.

Claim.—First, a holder for newspapers and documents, constructed and operated substantially as above described, the fastening pin or pins being clamped by the action of a screw.

Second, in newspaper holders or files, the combination of a hinge at one end with the fastening pin at the other end, constructed and arranged substantially as above described.

No. 49,745.—JACOB L. FREY, New York, N. Y.—*Sewing Machine.*—September 5, 1865.—This machine is designed for sewing together the edges of carpets, sails, &c., and also for button-holing, using but one thread. An inclined looper beneath the table has at its forward end an eyelet, with a segment cut away; this looper advances, and at the same time rises, carrying a loop above the table, and over the edge of the cloth, and over a small tongue on the cloth plate; it then makes a quarter turn, so that the needle may descend in the notch of the looper, and within the loop; on its return it becomes free from the loop, while the feed carries the goods forward and pulls the loop off the tongue; this affords sufficient looseness of stitch to allow it to be laid out flat in turning back the goods edge to edge.

Claim.—First, a looping instrument, formed in the manner specified, and to which the movements described are communicated, to draw a loop of thread from below the cloth, and present it to the needle above the cloth, as set forth.

Second, the finger S, around which the loops are laid in performing the sewing, and from which they are discharged as the material moves, as and for the purposes set forth.

Third, the levers *g* and *o*, the rod *f*, and the diagonal cam *p*, in combination with the looper *i*, for imparting to the same the required movements as specified.

No. 49,746.—JESSE FRYE, Brooklyn, N. Y.—*Traction Engine for Common Roads.*—September 5, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—Driving each wheel of the engine by a separate and independent cylinder or cyl inders, and their actuating appliances, substantially as and for the purpose described.

Also, the separate engine or steam cylinders H, for operating the mechanism that turns the front wheels of the engine to guide or direct its movements, substantially as described.

Also, connecting the front and rear frames, trucks, or portions of the engine by means of the stem or bar G, substantially as and for the purpose described.

Also, attaching the front wheels to the front frame by means of the axles, substantially such as shown and described, so that said wheels may be freely turned, and yet remain in gear with their respective driving cylinders, substantially as described.

Also, in combination with an engine for working on common roads or on the natural surface of the ground, a self-acting grade governor for regulating the supply of steam on ascending or descending grades, substantially as described.

Also, dividing the smoke stack vertically into two sections, and hinging the sections so that it may be brought close down in passing over or under bridges, &c., substantially as described.

Also, in combination with a steering mechanism worked by steam, as described, the stationary sights *t u*, and the moving one *x*, for running the engine on defined lines, as described.

No. 49,747.—JOSEPH B. GARDINER, Springfield, Mass.—*Paper Shirt Bosom.*—September 5, 1865.—This invention consists in making a small, false front to be worn over the ordinary shirt to avoid the necessity of frequent change of the same; also, in making this front of paper, with its surface raised, depressed, or otherwise ornamented in imitation of the usual plaits of cloth fronts.

Claim.—As a new article of manufacture a paper shirt front, made in imitation of a cloth front, by imitating the plaits of the same by arranging and depressing parts of the same, substantially as described.

No. 49,748.—CHARLES C. H. GLIDDEN, Boston, Mass.—*Washing Apparatus.*—September 5, 1865.—This invention consists in supporting a wash-bowl and reservoir or vase for holding water upon a hollow stand or tank designed to receive the slops from the wash-bowl, and to so communicate therewith that, by opening the passage between the tank and the wash-bowl, the liquid from the latter may flow into the former.

Claim.—The improved manufacture or washing apparatus as having its waste-water tank a support for the fresh-water vase and bowl, and provided not only with devices or ledges *a b l* for holding the vessels in place on it, but with an opening or short tube D, arranged as described, to receive a pipe *c* from the wash-bowl, the whole being as specified.

No. 49,749.—FREDERICK W. GOESSLING, Jersey City, N. J.—*Process for Making Sirup and Sugar from Indian Corn and other Grain.*—September 5, 1865.—This invention consists in first soaking the grain in a weak alkaline solution, after which it is crushed and strained; the milky liquid which passes through the sieves is then put into a tank and washed by agitation in a weak alkaline solution, then allowed to settle, and the liquid is drawn off. The mass is then washed with soft water, which is afterwards drawn off, leaving a pasty mass at the bottom of the tank. This substance is mixed with soft water, and poured by degrees into a boiling mixture of sulphuric acid and water, and the whole is kept at a boiling point for six hours. Fine pulverized animal charcoal is then added, after which the mass is neu-

tralized with carbonate of lime, and then more charcoal is added, and the whole mass is boiled for about five minutes; the mixture is then filtered and the pure sirup is evaporated in a vacuum to the proper consistency, and then crystallized.

Claim.—First, the use of animal or lichen carbon and equivalents in the process of making sirup and sugar from Indian corn or maize and other grains before and after neutralization, substantially as set forth.

Second, the use of prepared carbonate of quick-lime in the manufacture of sirup and sugar from Indian corn or maize and other cereals, substantially as set forth.

Third, pressing the sugar after it has been once crystallized, and remelting it, and again putting it into moulds for crystallization, substantially as described.

Fourth, the process or method of making sirup and sugar from Indian corn or maize and other cereals containing amylaceous matter, so far as the same is developed in each or either step or degree thereof, substantially as herein described.

Fifth, the manufacture of sirup and sugar from Indian corn or maize or other cereal grains containing amylaceous matter by the process or method substantially as herein described.

Sixth, a cane-like sirup and a cane-like sugar produced from Indian corn or maize or other grains containing amylaceous matter, as a new product of manufacture, substantially as set forth.

No. 49,750.—FREDERICK W. GOESSLING, Jersey City, N. J.—*Method of Making Sugar from Indian Corn or other Grain.*—September 5, 1865.—This invention consists in soaking the grain in a weak alkaline solution, then crushing and straining it, and washing the starchy substance with a weak alkaline solution, and afterwards with pure water; the substance thus prepared is then treated with a boiling mixture of sulphuric acid and water, after which it is allowed to cool, and animal carbon, carbonate of lime, and "terra alba" or gypsum added. The mixture is again boiled and more animal carbon and carbonate of lime added, until the whole mixture is perfectly neutralized. After this more animal carbon is added, and the mass is allowed to boil for five minutes. It is then filtered through cloth filters; the liquid thus obtained is then purified by means of bullock's blood and carbonate of lime, and then evaporated and crystallized in the ordinary manner.

Claim.—First, the method or process of manufacturing sugar from Indian corn or maize and other cereal grains containing amylaceous matter, in each or either step or degree thereof, substantially as described.

Second, a cane-like sugar produced from Indian corn or maize, as a new product of manufacture, by the method or process substantially as described.

No. 49,751.—FREDERICK W. GOESSLING, Jersey City, N. J.—*Method of Making Sirup from Indian Corn or other Grain.*—September 5, 1865.—This invention consists in soaking the grain in a weak solution of caustic alkali, afterwards crushing and straining it. The milky substance which passes through the sieve is then washed in an alkaline solution, and then with pure soft water. It is then treated with dilute sulphuric acid at the boiling point, after which animal carbon is added, and the mass neutralized with carbonate of lime. Dextrine or other uncrystallizable sirup is added, and a quantity of "terra alba" or gypsum is mixed with the mass, and the whole boiled for five minutes. More animal carbon is then added, and the whole again boiled; the liquid is then filtered, and carbonate of lime and bullock's blood added, and the whole brought to the boiling point, and the impurities skimmed off. The sirup is then filtered through animal charcoal, and evaporated to the proper consistency in a vacuum.

Claim.—First, the method or process of making sirup from Indian corn or maize and other grains containing amylaceous matter herein described, in each or either step or degree thereof, substantially as set forth.

Second, a cane-like sirup produced from Indian corn or maize or other cereals containing amylaceous matter, as a new article of manufacture, substantially as set forth.

No. 49,752.—ELI H. GREEN, Baltimore, Md.—*Lamp.*—September 5, 1865.—This invention consists in the mode of constructing the lamp-body base in connection with a projecting rod or handle, and in combination therewith of a shield at the top of said rod. A series of burners with perforations and notches in the tops is also used.

Claim.—The mode of constructing the lamp body A, base B, and projecting rod or tube D, substantially as and for the purposes herein specified.

Also, the shield H in combination with the lamp, as described, for the purpose herein set forth.

Also, the construction of the burner or burners, substantially as herein specified.

Also, the perforations *r r*, notches *s s*, either together or separately, in the burner tips, as a distinct improvement, substantially as and for the purpose herein set forth.

No. 49,753.—S. GRENELL, G. BEZ, and H. C. STOLL, Mokena, Ill.—*Gate.*—September 5, 1865.—This invention consists in hanging the gate upon a lever which is attached to the fence, and is attached to a rising and falling slide having levers connected to it, and all ar-

ranged in such a manner that the gate may be opened and closed by a rider or driver from a vehicle or on horseback.

Claim.—The lever D and slide C, provided with or having the levers F F attached and connected with the gate E, substantially as shown and described, to operate in the manner as and for the purpose set forth.

No. 49,754.—S. H. HAMILTON, Bushnell, Ill.—*Mode of Coupling and Uncoupling Cars.*—September 5, 1865.—This invention consists in the application of a lever to the ends of a car to facilitate the coupling and uncoupling of cars without any danger to the operator. The lever is so attached to a crane that it can be folded against the car when not in use.

Claim.—The lever F suspended from the crane D and applied to the car in the manner substantially as and for the purpose set forth.

No. 49,755.—E. A. HARVEY, Wilmington, Del.—*Brush for Cleaning Metallic Plates.*—September 5, 1865.—This invention consists in the employment of strips of India-rubber or other material, which are inserted in a suitable head in such a way as to leave a reserve of material, or more than the effective portion thereof, so that as the strips become worn by friction the effective portion may be elongated by pulling the strips forward in the head. Tufts of other material may be used in the same way, and surrounded in the head by a bushing of India-rubber.

Claim.—First, fixing elastic strips or other material A in the head B, so as to provide a reserve of material, which is made available when the strips are adjusted, as explained.

Second, in a brush constructed as above specified, with sockets passing completely through the head, scrubbing strips or tufts composed of or surrounded by India-rubber, to adapt them to be adjusted as required, and retain their positions in the head while in use, as explained.

Third, securing the fibrous material A in the head B by means of the elastic bushing C, substantially as described.

No. 49,756.—JOHN F. HEMPERLY and CHARLES BARNS, West Liberty, Iowa.—*Grain Binders.*—September 5, 1865.—This invention relates to a device for binding grain, the same being applied to a harvester. Reference to the claim and engraving will indicate the nature of the improvement.

Claim.—First, the toothed sector E in connection with the pinion F, slotted plate G, the arm W, carrying the wire A, and the knife or cutter B, all arranged to operate in the manner substantially as and for the purpose set forth.

Second, the arrangement of the spool P and pulley R with the ratchets *e e*, in connection with the band R and lever S, substantially as and for the purpose specified.

Third, the slotted slide I connected with the lever K, and arranged to operate in connection with the arm W, for the purpose set forth.

Fourth, the arrangement of the arm W on shaft X, in combination with the levers K and S, substantially as shown, so that they will move simultaneously by the application of power to lever K, as and for the purpose described.

Fifth, the spring catch V and the spring T arranged with the toothed sector E, in order to hold the same until the twist is to be given the band, and then to move the sector and give the hoist, substantially as described.

No. 49,757.—HENRY HORNER, New York, N. Y.—*Bell-Pull.*—September 5, 1865.—This invention consists in the arrangement with the bell of an India-rubber buffer to overcome the retraction caused by the springs, and prevent injury to the casing to which the pull is attached.

Claim.—The combination with a bell-pull of a rubber or other suitable elastic cushion or spring, arranged substantially in the manner described and for the purpose specified.

No. 49,758.—J. A. and H. A. HOUSE, Bridgeport, Conn.—*Boring Brace.*—September 5, 1865.—The object of this invention is to construct a brace that is capable of three distinct operations: first, to give the bit the usual motion of the ordinary brace; second, to multiply the revolutions of the bit without increasing the speed of the handle; and third, the revolving of the bit in situations where the handle cannot perform its usual revolutions; and the invention consists in a device for locking the handle and stock together in such a way that by locking it one way it performs the functions of an ordinary brace, and when locked the other way, and the loose handle is revolved and the brace made to sweep around the bit, motion is multiplied by means of a linked chain working on toothed wheels, and when the loose handle is revolved on the stock and locked with the gear, it revolves the bit without revolving the brace handle.

Claim.—First, locking the stock of the brace with the drill stock, substantially in the manner described for the purpose set forth.

Second, the combination of the handle, the flat link chain, and the drill stock, substantially in the manner and for the purposes set forth.

Third, the sliding stop, or its equivalent, substantially as and for the purposes set forth.

No. 49,759.—C. H. JACKSON, Angola, N. Y.—*Piston Packing for Deep Wells.*—September 5, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The combination of an expansible packing shell C, made of leather, or other suitable material, with a piston head A so constructed as to form an annular space between it and the packing shell, which annular space communicates by means of small channels with the rising column of fluid, so that the pressure of such column of fluid will expand the packing shell outwardly against the pump barrel, substantially as described.

No. 49,760.—R. W. JENKS, Providence, R. I.—*Match Safe.*—September 5, 1865.—This invention consists of an upright tin box, with a hole in the top to receive the matches, which fall down horizontally across two small springs, the latter preventing them from falling out of a hole in the bottom of the box. It is so arranged that these springs can be made to release one match at a time, and is to be hung up on the wall.

Claim.—The opening of the bottom I in connection with the springs F, substantially as and for the purposes set forth.

No. 49,761.—CHARLES F. JOHNSON, Jr., Oswego, N. Y.—*Plough.*—September 5, 1865.—In this invention the engine is mounted upon three wheels. The ploughs are caused to operate upon the ground in a direction at right angles to the direction of the machine, and are attached to an endless belt or chain passing over pulleys. The ploughs when in the ground are kept in an upright position by guides, which run in grooves on each side of the plough, and on leaving the grooves permit the ploughs to leave the ground in an easy manner.

Claim.—First, the plough, running at right angles, or nearly so, to the forward motion of the machine, in connection with the groove or guides, substantially as described.

Second, the plough, rotating on an axis, so as to be easily withdrawn from the ground when the stroke is finished, and again presented in a position to enter the ground.

Third, the guides or grooves and the cross-head, for the purpose of steadying the plough, as described.

Fourth, the arrangement of the guides and the cross-head by which the back of the cross-head, after emerging from the guides or grooves, can rise and allow the plough to turn up endwise and be withdrawn from the ground, in the manner described.

No. 49,762.—R. V. JONES, Canton, Ohio.—*Meat Cutter.*—September 5, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, the combination of two cylinders, both of which are provided with spiral flanges a portion of their length, and the one the balance of its length, with a right screw or thread; the other with a left screw or thread, working together, as and for the purpose herein specified.

Second, the combination of two cylinders B and C, constructed as described, with a ribbed case, as and for the purpose herein specified.

No. 49,763.—KENDALL W. KING and THOMAS C. HARGRAVES, Boston, Mass.—*Railroad Rail Joint.*—September 5, 1865.—This invention consists of double-headed bolts, used with fish plates having elongated slots, through which slots, and also through slots made in the web of the rail, these double-headed bolts are passed, the bolts and fish plates having such a construction that by rotating the bolts one-quarter of a turn, or less, the plates are tightly clamped against the ends of the adjacent rails, between the treads and flanges, for the purpose of preventing lateral and vertical play, but permitting longitudinal movement.

Claim.—The double-headed bolts, operating in connection with the slotted fish plates to confine the rails in position, substantially as set forth.

No. 49,764.—T. K. KNAPP, Worcester, Mass.—*Scissors Sharpener.*—September 5, 1865.—This invention consists in the combination of a frame, discharge opening, and circular cutter, whereby all clogging is prevented, while the periphery of the cutter can be ground or turned off without impairing its operation.

Claim.—Combination with the frame A, of the discharge opening *e f*, and circular cutter C, having an enlarged hole *d*, through its centre, whereby all clogging of the instrument is prevented, while the periphery of the cutter C can be ground or turned off without impairing its operation, all as set forth.

No. 49,765.—J. H. KNICKERBOCKER, Philadelphia, Penn.—*Tube Expander.*—September 5, 1865.—In this device an annular ring is provided with sockets in which are held the ends of the expanding arms; near the other ends of these arms are secured removable dies for swelling out the ends of the tube, so that the different sizes may be used as required. When a ferrule is used a hollow frustum is first inserted into the end of the tube, which its largest end fits nicely; the ferrule is then inserted in the end of the tube over the small end of the frustum, and the expanding ends of the said arms placed against the outward end of the ferrule, when a nut bearing against the opposite ends of the arms screws up on a bolt which draws the frustum out of the tube and forces the ferrule or tube outwards so as to secure it in the tube plates.

Claim.—First, the series of radially moving arms A A, arranged and supported in an annular base B, so as to operate or be operated together, substantially as described for the purposes specified.

Second, the employment of removable or changeable dies I I, in combination with the radially moving arms A A, substantially as and for the purposes described.

Third, also, in combination with an expander, provided with radially moving arms A A, as described, the employment of the hollow conical frustum C, operated together by any suitable power, as and for the purposes described.

No, 49,766.—GEORGE W. KOCK, New York, N. Y.—*Bureau and Commode.*—September 5, 1865.—This invention consists in combining in one piece of furniture a bureau and commode, the commode being so arranged as to move out and in, according as it is desired.

Claim.—A combined bureau and commode, either with or without a bedet, made substantially as herein described, for the purposes specified.

No. 49,767.—A. KOMP, New York, N. Y.—*Hat Ventilator.*—September 5, 1865.—In this device a narrow steel spring is fitted within the hat even with the brim, its ends being attached a little in front of the ears when worn; another spring of smaller diameter inserted in the sweat leather is attached in like manner, but, making a smaller circle, affords space for the entrance of air between the sweat leather and front of the hat.

Claim.—A ventilator composed of a supporting plate A, and spring B, secured together so as to leave a crescent-shaped space C, substantially in the manner and for the purposes set forth.

No. 49,768.—A. KREUSLER, New Lebanon, N. Y.—*Steeping, Growing, and Drying Malt.*—September 5, 1865.—This invention consists in effecting the malting operation by means of an apparatus composed of a wire-gauze cylinder mounted on a hollow shaft, through which steam is admitted to the helical heating pipe in the interior of the wire-gauze cylinder, in combination with a cylindrical case, one-half of which is surrounded by a jacket in such a manner that the steeping, growing, and drying, can be effected without removing the malt from the apparatus.

Claim.—The within described method of effecting the steeping, the growing, and the drying of malt in an apparatus composed mainly of a wire-gauze cylinder, revolving in a case with a jacket, substantially in the manner set forth.

No. 49,769.—WILLIAM LASSELL, Boston, Mass.—*Lamp.*—September 5, 1865.—This invention consists in surrounding the lower part of the wick-tube with a large tube made in two parts, one sliding within the other, to adapt it to lamps of different depths.

Claim.—Surrounding the lower part of the wick-tube and wick with an enlarged tube, made in two parts, one sliding within the other, to adapt it to lamps of different depths.

No. 49,770.—WM. LAWTON, New York, N. Y.—*Mode of Starting Railway Cars.*—September 5, 1865.—The nature of the invention will be understood by reference to the claim and engraving.

Claim.—First, the combination of the lever E or E2, pawl D, ratchet wheel C, with the axle and draw hook of a railway car, the whole operating and constructed substantially as herein described.

Second, in combination with the double-ended pawl D, the fixed guide or projection H, operating in the manner and for the purpose herein described.

Third, the lever J, and stop *n*, in combination with the pawl D, and ratchet wheel C, substantially as and for the purpose herein specified.

No. 49,771.—NELSON LEZAT, New Baltimore, N. Y.—*Wagon Brake.*—September 5, 1865.—This invention consists in the combination of a pair of horizontal levers with a cross bar that extends from the brake block on one side to that on the other, and carries the fulcrum of said secondary lever, so that the power applied thereto shall operate at its fulcrum through said cross bar to press the brake blocks to the wheels with greater force.

Claim.—The cross bar *h*, carrying the fulcrum *i*, of the secondary lever *k*, in combination with horizontal levers *d d*, and brake blocks or shoes *g g*, as and for the purposes specified.

No. 49,772.—EDWIN LOCKWOOD, Bordentown, N. J.—*Axle Box.*—September 5, 1865.—This invention relates to a means of preventing the admission of dust or dirt into the rear end of the axle, thereby preventing its cutting or wearing by means of grit and hard foreign substances, which would likewise work in between the axle and the bearing in the box.

Claim.—The construction and use of the packing C, composed of two parts E E, one part E, being fixed, and the other part being adjustable and regulated by a screw F, or its equivalent, in combination with the chamber B, at the rear of the box, and the plate D, which, with the packing, is fitted in said chamber and secured in position by bolts H, substantially as and for the purpose set forth.

No. 49,773.—ORAZIO LUGO.—New York, N. Y.—*Projectile for Ordnance.*—September 5, 1865.—In this invention the projectile which is designed to be employed in a gun without a firing vent and is discharged by means of a friction primer in the projectile operated by a cord and extending out at the muzzle of the gun, has, as its chief peculiarity, a conoidal chamber in front, carrying a small charge of powder, the alleged object of which is to produce a rarefaction of the air in the gun at the moment the projectile is discharged.

Claim.—The employment of a charge D, in front of the projectile, substantially as and for the purpose herein specified.

No. 49,774.—E. B. LYMAN, Bridgeport, Conn.—*Basket.*—September 5, 1865.—This invention consists in making the bases of baskets, hampers, &c., in such a manner as to protect the bottom and corners from injury and wear, the base being formed with as many sides as there are sides to the basket, each side being a solid piece, and the several pieces being framed together at their ends, in any suitable manner.

Claim.—Forming a base of solid rails D, in the construction of baskets, hampers, and similar articles, and securing their sides and bottoms to the rails by means of grooves *e e'*, substantially as above described.

No. 49,775.—WILLIAM C. MAHON, Covington, Ky.—*Water-proof Fabric for Hats, &c.*—September 5, 1865.—This invention consists in first moulding a hat of paper, or any other suitable material. The mould is then covered with a size, of five parts of glue, two parts of ley, and two parts of linseed oil. A varnish, composed of linseed oil, gum copal, white vitriol, and sal soda, is applied, and then a coating of flock. The hat is then baked in an oven at a temperature of 100 degrees Fahrenheit, after which it is washed with a solution of alum and allowed to dry.

Claim.—As a new and cheap and improved article of manufacture, the water-proof composition hat or cap, made substantially as described.

No. 49,776.—JOHN MAYHER, East Hampton, Mass.—*Oil Can.*—September 5, 1865.—This invention consists of a bell-shaped cup, the tube of which corresponding to the handle has a flexible diaphragm over its broad end; within this broad end a cross bar is socketed at each end to the flaring sides of the cup. A spring, attached to this bar, presses upon a central disk inside of the diaphragm. The cup is operated by intermittent pressure, upon the centre of this diaphragm.

Claim.—First, the combination of the socketed cross bar *b*, and spring *a*, when located within the can, and adapted to act upon the bottom in the manner specified.

Second, in combination with the above, the disk C, applied as and for the purpose described.

No. 49,777.—ADOLPH MILLOCHAR, Jersey City, N. J.—*Instrument for Testing Petroleum.*—September 5, 1865.—This invention consists of a metallic cup containing a wick tube, and provided with a loop for holding the thermometer.

Claim.—The oil receptacle, containing a wick tube or burner to heat and inflame the petroleum or other oil, in combination with the thermometer introduced into such receptacle, for the purposes and as specified.

No. 49,778.—GEORGE E. MILLS, New York, N. Y.—*Packing for Oil-well Tubes.*—September 5, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, a packing, consisting of a tube or bag of leather, having a bottom and top secured firmly to the discharge pipe, the top forming a cup in the upper end of the leather tube, which will expand and make a valve cut-off against the walls of the well, as herein described, for the purposes set forth.

Second, In combination therewith, a gas escape-pipe, arranged in relation to the cylinder and packing, substantially as described.

No. 49,779.—JOHN O. MONTIGNANI, Albany, N. Y.—*Clothes Rack.*—September 5, 1865.—This rack consists of a cylindrical wooden rod in which is cut a longitudinal groove. The hooks fastened upon the rod are provided with a tongue fitting in the said groove, and are arranged to slide along the rod at pleasure. The hooks are provided with a device by means of which they are easily put on or taken off the rod.

Claim.—First, the rod A, with its groove *e*, in combination with the hooks H, and the rings *c*, fitted to the rod, and for the purpose described.

Second, the bracket, consisting of a back plate E, and hook H, with its rings C, and tongue Z, united together by means of the button X, and the hole *a*, in the manner and for the purpose described.

Third, the rod A, with its groove *e*, the bracket formed by the back plate E, and a hook H, with its ring C, the hooks H, with their rings C, and tongues Z, in combination with each other, substantially as described, together forming an improved clothes rack.

No. 49,780.—F. V. NOYES, Mattoon, Ill.—*Door-mat.*—September 5, 1865.—This invention consists in the use of a skeleton frame, in which are inserted corn shucks or leaves, hemp, manilla, broom-corn, or other fibrous substances, and secured in the frame by keys or blocks

Claim.—The method, substantially as above shown and described, of making door-mats of the leaves or shucks of corn, or any other suitable material, manufactured or unmanufactured.

No. 49,781.—A. M. OLDS, Chicago, Ill.—*Ash-sifting Shovel.*—September 5, 1865; antedated August 25, 1865.—In this invention the bottom of a shovel is constructed of a number of slats pivoted to the frame, and so curved that the centre of gravity on each slat is below the tenons on which it hangs by means of a spring on the handle, communicating with a transverse rod beneath the slats, which holds them together. The slats may be opened and shut at pleasure, and thus a solid-bottomed shovel or ash-sifter may be produced at will.

Claim.—First, constructing the bottom of a shovel of one or more movable slats, pivoted to the frame, substantially as and for the purpose set forth.

Second, placing the tenons on which said slats swing in front of their edges, substantially as and for the purpose described.

Third, curving the edges of the slats, substantially as and for the purpose specified.

Fourth, the arrangement of the spring-catch D, in combination with the movable slat C, and shovel A, constructed and operating substantially as and for the purpose set forth.

No. 49,782.—WILLIAM PAINTER, Baltimore, Md.—*Method of Joining Sheet-metal Bands.*—September 5, 1865.—This invention consists in lapping the ends of the strips of tin to be joined in the same manner as for soldering, and cutting two strips crosswise of the strip and parallel to each other, and setting the parts between the slits out by a punch; the part thus set out is then struck by a hammer against the punch, which so swages it that it will be wider than the distance between the two slits, and thus hold the parts together.

Claim.—The lock or fastening for rims of blacking boxes and similar purposes, formed by making incisions through the lap and raising and expanding the parts between them, substantially in the manner described.

No. 49,783.—JOHN PARKMAN, JR., Philadelphia, Penn.—*Packing for Oil-well Tubes.*—September 5, 1865.—This invention consists of a cup-shaped packing of India-rubber, having a hole in the bottom disk to permit its passage over the pump cylinder, and is let down thereon to the desired point, where it is held in place by clamping it between a screw nut within the cup and another below it, the concavity of the cup being upward. The cup has one or more annular grooves to permit it to bend inward, on meeting obstructions, as it is withdrawn from the well.

Claim.—First, an India-rubber cup-shaped packing, having one or more indentations in it, so that it will bend or yield when the tubing for any reason is drawn from the well, and thus prevent jamming, substantially as described.

Also, the fastening of such cup-shaped packing to the tubing by clamping its base between lock-nuts screwed into the tubing, as herein described and represented.

No. 49,784.—A. J. PEAVEY, South Montville, Me.—*Combined Pocket-knife and Pistol.*—September 5, 1865.—This invention consists in the arrangement of a small barrel and suitable mechanism for exploding the charges within the handle of an ordinary pocket-knife, in such a manner that the pistol attachment does not in any way interfere with the ordinary use of the knife, and the whole can be conveniently carried in the pocket.

Claim.—The trigger *t h*, spring *i*, main-spring *f*, and hammer H, with projections *g* and *p*, all constructed and arranged as and for the purposes described.

No. 49,785.—T. W. PIERCE, Minneapolis, Minn.—*Device for Stripping Cane.*—September 5, 1865.—This invention consists in arranging a series of radial sections in an annular plate, and encompassing the same with an elastic band, whereby the sections are made to press against the stalks of cane, and, at the same time, allowed to yield or accommodate themselves to the varying thicknesses of the stalks, while the latter are being drawn through the central opening formed by the inner surfaces of the sections.

Claim.—The radial sections B, fitted to the annular plate A, and encompassed by an elastic band C, substantially as and for the purpose set forth.

Further, having the upper ends of the parts *c*, of every alternate section provided with projecting ends, to lap over the ends of the intermediate sections, substantially as and for the purpose specified.

No. 49,786.—J. C. PLUMER, Boston, Mass.—*Spring for Cars or Carriages.*—September 5, 1865.—This invention consists in an arrangement of levers united by joints, between which are placed pieces of rubber for the purpose of resisting their action and imparting to them elasticity. Metallic plates are applied to the exposed surfaces of the rubber and connected by a screw and nut, for the purpose of imparting different degrees of rigidity to the spring.

Claim.—First, a spring, which is constructed of two or more arms or levers, united by joints, and which derives its elasticity from a piece or pieces of rubber fixed in or between the arms, as described.

Second, the plates applied to the exposed surfaces of the rubber, and connected by a bolt, in combination with the described spring, both as and for the purposes described.

No. 49,787.—LOUIS RANSOM, Lansingburg, N. Y.—*Reservoir for Compressed Air.*—September 5, 1865.—This apparatus consists of a coil of tubing, arranged in a bath to cool the condensed air previous to its transmission to a reservoir, consisting of a series of cylinders connected with each other at discretion by means of a stop-cock.

Claim.—The coil *c*, immersed under water, in combination with the supply pipe *b*, and reservoir A, constructed and operating as and for the purpose set forth.

No. 49,788.—W. T. RAY, Philadelphia, Penn.—*Register for Libraries.*—September 5, 1865.—This invention consists of a register in book form, provided with several tables of record, each of which have a blank space above for the name of each person taking a book, in connection with a slot, in which a slip, having on it the number of the book, may be inserted.

Claim.—A library register, constructed, arranged, and operated in the manner herein described.

No. 49,789.—JOSEPH RIDGE and S. T. ESTILL, Richmond, Ind.—*Shirt-collar Stud.*—September 5, 1865.—In this invention the head of the stud is elliptical, and enters the slit in the shirt-band in the direction of its length, but is immediately turned transversely thereto, a fixed circular flange pressing the band on the outside. The continuation of the stud on the outside fits the oval slot in each end of the collar. At its end a disk is hinged near the periphery thereof. The rivet acting as a hinge to this disk admits of the rotation of the disk upon it, so that when the hinge descends to one side the disk may move off and on the stud like a turn-table; but when the hinge is upright the disk stands in line with its shank, and the slotted collar ends upon the shank.

Claim.—First, pivoting the face-plate to the under portion of the fastening, so that it may be swung around to expose the shank or lock the ends of the collar, substantially as described and represented.

Also, the combined pivoting and hinging of the face-plate to the shank or under plate, so that it may be swung around on its pivot and then raised upon its hinge for readily removing or replacing the stud, and locking it when in place, substantially as described.

Second, also, in combination with a shank that will fill, or nearly so, the button-holes of the collar or other garment, the arranging of the long diameter of the back button at right angles to the line of length of said shank, so that the shank shall prevent the stud from turning, and thus allow the back-button to come out of its button-hole, substantially as described.

No. 49,790.—SILAS RIGGS, Blanchester, Ohio.—*Naval Grappling Apparatus.*—September 5, 1865.—This invention consists in the arrangement of an overhanging hooked bar, actuated by endless rollers, by which the bar is projected and let fall to hook into the enemy's ship.

Claim.—The overhanging hooked bar D, shield E, vertical guides F, and actuating windlasses G and H, or their equivalents, the whole being arranged and operating substantially as set forth.

No. 49,791.—F. W. ROBINSON, Richmond, Ind.—*Sawing Machine.*—September 5, 1865.—This invention relates to the manner of giving a rocking motion to the saw, and consists in making a slot in the saw bar near its rear end, the slot varying from the line of the cut of the saw. This slot receives a friction roller which runs upon a fixed journal and carries the bar in a line with the slot, which imparts a rocking motion to the saw.

Claim.—The combination of the bent and slotted saw bar G, fixed roller H, crank or wrist wheel E, and pitman F, as and for the purpose described.

No. 49,792.—WILLIAM ROSEE, New York, N. Y.—*Bullet for Rifled Fire-arms.*—September 5; antedated August 25, 1865.—This invention consists of an elongated bullet for rifled fire-arms, made to fit the lands of the bore, with a cylindrical teat at its front extremity.

Claim.—An elongated soft metal bullet, constructed with a cylindrical portion *a*, to fit the lands of the bore without entering the grooves, with a band *b* around the rear, of such size as to enter the grooves of the bore in loading, and with a cylindrical teat *c* at its front extremity, the whole combined substantially as and for the purpose herein specified.

No. 49,793.—FREDERICK SCHLICH, New York, N. Y.—*Stopper for Bottles.*—September 5, 1865.—This invention consists of a stopper attached to a swinging bail, the bail passing through a slot in the projection. The stopper is provided with a rubber packing, which surrounds a conical projection, and the said packing can be adjusted to suit the size of the neck of the bottle by means of a screw.

Claim.—First, securing the swinging bail by the fulcrum loops, formed and secured in the manner set forth.

Second, the elastic stopper, in combination with the tapering projection 1 and screw *o*, as and for the purposes specified.

Third, the swinging bail, in combination with the elastic stopper and wing or wings 2, as and for the purposes specified.

Fourth, the stopper, formed of India-rubber, with a flange to take the top of the bottle and the cylindrical portion entering the neck, so as to render the stoppage tight, as set forth.

No.49,794.—F. SCHNURR, Monroe, Mich.—*Clothes' Sprinkler.*—September 5, 1865.—This invention consists of a reservoir having a perforated face or bottom with a suitable handle attached thereto, and an air tube communicating with said reservoir and opening out on one side of the handle.

Claim.—A device for sprinkling clothes, consisting of a reservoir A, provided with a suitable air duct C, constructed substantially as herein shown and described.

No. 49,795.—S. J. SEELY, New York, N. Y.—*Sole for Boots and Shoes.*—September 5, 1865.—This invention consists in securing a thin metallic sole between the outer and inner soles of boots and shoes, and corrugating the metal sole at the instep, thus preventing moisture, and rendering the sole elastic. The metallic sole is turned over upon and sewed or pegged into the insole.

Claim.—The combination of a thin metallic sole, corrugated at its shank with the sole and insole of boots or shoes, when turned over upon and sewed or pegged into the insole, and arranged between them, substantially in the manner and for the purpose described.

No. 49,796.—DANIEL SEXTON, San Gabriel, Cal.—*Quartz Crusher.*—September 5, 1865.—This invention consists in the employment of a series of cams placed on horizontal shafts, in connection with fixed wheels placed on the rods of the stamps, all being so arranged that the cams will elevate the stamps by acting against the wheels.

Claim.—The employment or use of the cams C, in connection with wheels I, on the stamp rods H, all constructed and arranged to operate in the manner and for the purpose herein set forth.

No.49,797.—JOHN S. SHATTUCK, Medford, Mass.—*Ice-cream Freezer.*—September 5, 1865.—The object of this invention is to raise the tub containing the freezing material, after the cream can has been placed in it, upward far enough to make the latter engage with the rotating mechanism and receive rotary motion. This object is effected by placing the tub on a wheel consisting of three disks, the upper surface of the lower disk, the lower surface of the upper, and both surfaces of the central disk being provided each with three inclined planes of the same height ,and springing from the same plane. The projections on each disk fit into the depressions on the others, so as to form a solid wheel if desired; but when the central disk is rotated in the right direction, the inclined planes of the several disks are made to mount upon each other, and thus elevate the superimposed tub.

Claim.—The stand elevator, having three cams or projections which raise and lower the tub and cream can into or out of connection with the gears, and at the same time afford a fixed base or support for the tub, as specified.

No. 49,798.—JEHYLEMAN SHAW, Bridgeport, Conn.—*Drill for Artesian Wells.*—September 5, 1865.—This invention consists of an expanding drill; when it is drawn upward the cutters fall together and become contracted to a compass less than the diameter of the pipe within which the drill works, while, when it is forced downward and strikes any hard object, the cutters are forced outward in radial directions to a diameter greater than the pipe, and therefore cut a path for the pipe through the obstruction.

Claim.—A drill for boring a path for the soil-pipe through bowlders and other hard objects which obstruct the descent of such pipe, constructed and operated substantially as above shown.

No. 49,799.—WILLIAM S. SPRATT, West Manchester, Penn.—*Plough.*—September 5, 1865.—This invention consists in furnishing the mould-board of a steel or wrought iron plough with a bed or offset for the share, and in uniting said share-bed and the land-side in one piece by welding them together.

Claim.—An offset or bed for the ploughshare of cast-steel or wrought-iron ploughs, said offset or bed being made separate from or in connection with the mould-board, and welded to the land-side, as herein described and set forth.

No. 49,800.—ARIEL B. SPOUT, Hughesville, Pa.—*Horse-rake Teeth.*—September 5, 1865.—This invention relates to the construction of the teeth, and will be understood from the claim and engraving.

Claim.—First, grooving or hollowing the sides of the tooth so that its thickness through its centre on the line *d*, Fig. 3, may be less than on the lines *a b*, same figure, in order to place the greater amount of metal where it is needed to give effectiveness with economy of material.

Second, the combination of the taper with the curve of the tooth, said taper extending from about the portion C to the point *d*, said curve being about a semi-circle, so that by the

combination of the taper and the curve the inward tractive power of the curve is gradually increased from the point *d* to about the portion C, substantially as herein described and for the purpose set forth.

No. 49,801.—ALBERT STEPHENSON, St. Louis, Mo.—*Hydrant.*—September 5, 1865.—In this invention the hydrant is arranged in a portable box or case, the only necessary fixed connection being the induction pipe. The valve-rod is operated by a screw near the top, and by this means the valve opens near the base within; a lateral valve, held by a spring within the inner side of the cylinder, covers a waste-port in such cylinder, and when the induction valve is drawn up to its seat this port is uncovered, and the water escapes into the box.

Claim.—A portable or removable hydrant, composed of the chamber B and pipe D, connected by a screw or other coupling, and provided with a valve F at the lower end of D, a discharge spout J, and a waste-valve K, arranged to operate with the opening *j* in D, substantially as set forth.

Also, the box A, when used in combination with the hydrant, constructed and arranged as described.

No. 49,802.—B. F. ST. JOHN, Shelbyville, Ind.—*Pendulum Level.*—September 5, 1865.—In this invention one arm of the index extends around its edge and to the rear of the dial, and is fixed to the lower end of the pendulum.

Claim.—The index hand D, extending from the extreme hand of the pendulum B, and bent around the edge of the dial C, in combination with the central stud *b*, constructed and operating as and for the purpose set forth.

No. 49,803.—J. N. TARBOX, Buffalo, N. Y.—*Sewing Machine.*—September 5, 1865.—This invention will be understood from the claim and engraving.

Claim.—First, the combination of the following devices: 1st, a looper, formed as an arc of a circle, with an eye near the end, and a groove extending along the side and edge thereof to an eye near the back end; 2d, an arm at the end of a rock shaft, placed diagonally to the bed of the machine and to the feed; 3d, a pinion and segment acted on by a cam, for giving motion to the looper, and carrying the point and eye from below the cloth up over the edge; and, 4th, an eye-pointed needle acting from above the cloth and taking a loop from the looper, and having a loop of thread taken from itself below the cloth, substantially as specified.

Second, the combination of an eye-pointed needle acting from above the cloth, and a looping instrument acting from below the cloth in the arc of a circle at an inclination to the eye-pointed needle, as specified, with a pressure-foot acting to keep the cloth to the bed, but capable of being swung aside for passing the button-hole over the point of the looper, as specified.

Third, the eye-pointed needle, curved looper, and swinging pressure foot, fitted and acting as aforesaid, in combination with the hook *y*, for holding the button-hole open when the looper ascends, as specified.

Fourth, the hook *g m*, in combination with the looper, for the purposes and as specified.

Fifth, in combination with an eye-pointed needle acting above the cloth, and a looping instrument passing up from below the cloth, and delivering its loop of thread over the needle in the manner specified, the cam *p*, lever *m*, and eye 5, to take up the slack of the needle thread, as specified.

Sixth, the combination with the eye-pointed needle *i*, and looper *o*, operating substantially as specified, the heart-shaped slot *h* and crank pin 1, or equivalent mechanism, for communicating the movement specified to the needle, so that the same will pause while in the cloth, and move rapidly when out of the cloth, as specified.

No. 49,804.—JOHN TAYLOR, Lawrence, Mass.—*Calico Printers' Blanket.*—September 5, 1865.—This invention consists in mixing with the common India-rubber and sulphur compound, when in its plastic state previous to its application to the canvas, which forms the back of the calico printers' blanket, about one-half its volume of powdered cork. This mixture is then applied to the canvas in the usual manner. The ends of the blanket having been joined it is vulcanized, and subsequently brought to a uniform thickness by grinding or rubbing

Claim.—An India-rubber printing blanket, having an absorbent and slightly elastic or yielding surface, composed of cork or other suitable substance, for the purpose specified.

No. 49,805.—W. H. TOTTEN, Academia, Penn.—*Hod Elevator.*—September 5, 1865.—This invention consists of a frame or cage, so shaped in a triangular form that the body of the hod will rest securely therein while being hoisted with brick or mortar, and so that the hod can be easily placed in or removed therefrom.

Claim.—Hoisting a hod by means of a movable elevator C, constructed and operating substantially as described.

No. 49,806.—T. L. TRIPP, Prescott, Wis.—*Rein-holder.*—September 5, 1865.—This invention consists of a wooden or metallic clamp to be secured to the dashboard of a carriage.

It has two jaws, so arranged as to be pressed together by suitable springs, and into these jaws the reins are to be drawn, in order that they may there be held until removed.

Claim.—First, a device for holding the harness reins, consisting of the jaws D D, substantially as herein specified.

Second, the combination of the jaws D D, body A, projecting jaws *a a*, spring *e*, substantially as shown and described.

Third, making holes or slots *c c* in the body A, through which to pass the reins, to prevent their becoming tangled and twisted, substantially as described.

No. 49,807.—STEPHEN USTICK, Philadelphia, Pa.—*Table and Apparatus for Invalids.*—September 5, 1865.—This invention consists of a frame and clamps to be attached to a bedstead, on which a table and sundry other devices are placed conveniently in reach of a patient in bed.

Claim.—First, the combination of the bars B B, with the bracket A, for the support of the table C, when the said bracket is connected with a bedstead, substantially as described.

Second, the combination of the book-support G, writing-board I, and looking-glass J, with the table C, by means of the slide H, and way F, substantially in the manner above set forth.

No. 49,808.—W. H. VAN GIESON, Waterbury, Conn.—*Die for Furniture Nails.*—September 5, 1865.—This invention consists of a series of dies for cutting the disks which form the heads of furniture nails from sheets of metal rolled to the proper thickness; also, for making the holes in said disks for the reception of the shanks of the nails; also, for stamping the disks into proper shape, and, at the same time, throwing the stock to the centre, and forcing it around the upper part of the shank of the nail, so as to fasten the said shank securely to the disk which forms the head of the nail.

Claim.—A series or set of dies A C E D and F G, for forming and attaching the heads of furniture nails to the shanks, substantially as described and to the effect set forth.

No. 49,809.—G. I. WASHBURN, Worcester, Mass.—*Steam Engine.*—September 5, 1865.—This invention consists of a steam cylinder, within which are located two single acting pistons and between which, and upon the same axis or stem with the pistons, are two disks, which, although transversing the cylinder steam-tight, perform no office as pistons to receive or transmit pressure, but serve to separate the space between the single acting piston into three spaces, the middle one being open for the steam from the boiler; when the steam has been admitted to this space, it passes to one or the other outer end of the cylinder, and the motion of the engine commences, and the two central or small disks act as valves and control the induction and eduction of steam to and from the cylinders. Located centrally between the cylinders, and inclosed in a steam-tight space, is the crank for communicating motion to the machinery to be driven, which is effected by means of a slot in the piston rod in which the crank-pin works.

Claim.—First, the combination of the pistons B B, disks C C′, attached to a stem D, with a cylinder provided with ports, which open into the spaces between and beyond the disks and pistons, in the manner and for the purposes described.

Second, combining two or more such cylinders by means of connecting passages, through which live steam or other fluid under pressure is supplied from one cylinder to another, making the disks C C′, which are located between the pistons of one cylinder, act as a valve to the other cylinder or cylinders, whether the described apparatus be used as an engine or a valve.

Third, arranging a valve which gives steam to the effective spaces between the pistons, and upon the same stem with them.

Fourth, arranging a valve which connects the effective spaces with the exhaust pipe between the pistons and upon the same stems with them.

Fifth, in combination with the said pistons B B′, disks C C′, and stem D, arranging the crank of the main shaft within the stem or exhaust space of the cylinder.

Sixth, the arrangement of the valves for determining the extent of the expansive action by proportioning the width of the disks and ports as described.

Seventh, imprisoning a body of steam of not over a determinate pressure within the cylinder for the purpose described, by means of closing the exhaust as described.

Eighth, so arranging the loop on the piston stem, or its equivalent, as to cause the piston to pass the mid-length of its cylinder before its crank has reached its midway or vertical position.

No. 49,810.—GEORGE I. WASHBURN, Worcester, Mass.—*Steam Generator.*—September 5, 1865.—This invention consists in providing a furnace of sufficient strength to withstand the pressure equal to the pressure of the steam in the generator, and combining it with coiled pipe made of light metal, and placed within it, through which the water passes, and in which it is converted into steam. It also consists in combining the above-described device with a separate recess, which is partially filled with water, and into which the products of combustion are conveyed and cleansed previous to being allowed to mingle with the steam. Air for the support of combustion in the furnace is forced therein by means of a pump, and thus an equilibrium of pressure is kept up on the inside and outside of the generator.

Claim.—First, in apparatus so constructed as to use volatile results of combustion, in combination with the steam under equal pressure, the cleanser E, which is distinct from the boiler, and within which the said volatile products are cleansed.

Second, in apparatus so constructed as to use volatile results of combustion, in combination with steam under equal pressures, the cleanser E, Fig. 1, within which steam is generated by the heat of the said volatile products, which pass through and are cleansed therein.

Third, in apparatus so constructed as to use the volatile products of combustion, in combination with the steam under equal pressures, the generator placed inside of the furnace.

No. 49,811.—SAMUEL S. WEED, Stoneham, Mass.—*Apparatus for Removing Hair and Lime from Hides.*—September 5, 1865.—This invention consists of a corrugated roller, the corrugations of which are filled with India-rubber or other elastic material. The roller has its bearings in the frame work, which also serves as a bearing for the pressure roller and feed roller. The feed roller has its bearings in the frame which swings on the journal of the rollers; the feed roller is held firmly in place, when the machine is in operation, by means of a swing rest which is brought up under the frame.

Claim.—The corrugated cylinder B, with the rubber or elastic material *b*, operating substantially as and for the purposes specified.

Also, the feed rolls J K, in combination with a corrugated cylinder B, operating substantially as set forth.

Also, the pressure roll E, in combination with a corrugated cylinder D, and feed rolls J K, operating, substantially as set forth.

Also, the combination of a corrugated cylinder B, feed rolls J K, and the yielding pressure roll E, operating substantially as set forth, for the purposes described.

No. 49,812.—AUGUSTUS WEITMAN, West Union, Iowa.—*Horeshoe.*—September 5, 1865.—This invention consists in making the shoe of two parts hinged together at the toe, and fastening it to the foot by means of three flanges, one at the toe, and one near each heel, which project upward adjoining the hoof, and through the upper parts of which screws project into the hoof, the upper ends of the flanges also project into openings made in the sides of the hoof; and, lastly, upon the under side of the toe a plate is screwed by screws to each of the two parts of the shoe, which carries the toe calk, and holds the joint rigidly while the shoe is on the foot.

Claim.—The lips or spurs D, on the upper surface of each part A of the shoe, in connection with the flanges C, screws *b*, and the flange G, at the front of the shoe, substantially as described.

Also, constructing the shoe of two equal parts A A′, connected at their front ends by a pivot *a*, when used in connection with the plate F, attached to said parts by screws H, and either with or without the flanges C, as set forth.

No. 49,813.—C. H. WELLMAN, New York, N. Y.—*Stirrup Fastening.*—September 5, 1865.—This invention consists in a method of readily disconnecting the strap from the buckle, and having the buckle hinged by one of its sides or ends to the main portion of the buckle frame. A sliding pin is attached to the central bar.

Claim.—The combination with a sliding hook or pin of a buckle, made of any desired shape, a hinged or pivoted side, arranged and operating together, substantially in the manner described and for the purposes specified.

No. 49,814.—JOSEPH WELSH, Philadelphia, Penn.—*Loom.*—September 5, 1865.—The object of this invention is to enable the attendant, at will to change the character of the fabric being woven, from plain to twisted, or vice versa, in a few moments instead of at stated intervals only. It consists of devices whereby the relative position of the cams and treadles of a power-loom can be altered, as occasion may require, by simply moving an attached lever, crank, or slide by hand. The treadle cams are free to slide on their shaft. To avoid the inequality of wear on the treadles where a cam bears with half its face upon two of them the two are coupled together by a clamping cup, and the cam is thus allowed to bear on one only, although thus operating both.

Claim.—Producing the herein-described changes in a loom, by means of any suitable device, to be operated by hand at the will of the attendant, substantially as and for the purpose described.

No, 49,815.—JOSEPH P. WHITE, New York, N. Y.—*Baling Press.*—September 5, 1865.—This invention relates to a press in which the follower can be operated by a slow and by a quick motion. The slow motion arises from a hollow screw spindle which screws into a worm wheel gearing with a worm. A rod passing through said screw spindle and connected with it by a key unites it with the follower. The extreme end of the rod forms a toothed rack which gears in a suitable pinion, and if the key which unites said rod with the screw spindle is withdrawn, the pinion and rack form the quick motion for the follower, which can be used independently of the slow motion.

Claim.—The rack rod E, and hollow screw spindle F, when employed in connection with the worm wheel G, worm I, and pinion *d*, to operate the follower K, in the manner described.

No. 49,816 —E. G. WHITING, Northfield, Minn.—*Plough.*—September 5, 1865.—This invention consists in lapping the forward portion of the wrought metal land-side of the plough, so that it embraces the end of the plough standard.

Claim.—Lapping the forward portion of the share E, around the standard C, as described and represented at *b b'*, Fig. 4.

No. 49,817.—JONAS T. WILEY, Claytown, Iowa.—*Grain Register.*—September 5, 1865.—This register is designed to be attached to the side of a threshing machine near the measurer, and is to be used for keeping the tally of the number of bushels threshed. Its handle is rotated once for each half bushel, and the number of half and whole bushels as well as of their multiples indicated by index fingers. The registry of each half bushel is made audible by the snapping of a spring against a shaft.

Claim.—First, the registering apparatus, substantially as described, consisting of the crank, shafts, wheels, and indices, in combination with the projection on the shaft and the snapping spring, which audibly indicates the scoring, and prevents the revolution of the shaft in the wrong direction.

Second, the combination of the plate Q, with the spring F, and shaft D, by which the machine may be seen in the reverse direction when the plate is interposed to prevent the engagement of the projection E, on the end of the spring F.

Third, the arrangement of the shafts J K L, and the strap M, with the opening in the side of the box, and the unshipping slot S, substantially as described.

No. 49,818.—HENRY WILLIAMS, Kenosha, Wis.—*Seeding Machine.*—September 5, 1865.—This invention consists of a broadcast seeder, which in some minor points differs from others. The feed wheels are placed obliquely upon the shaft, for the purpose of distributing the seed more evenly. The shaft which carries the seeding wheels is in two parts, one half being driven by one bearing wheel, and the other half by the opposite wheel, consequently in turning at the end of the land, the outer end of the machine will distribute seed.

Claim.—The employment or use in a seeding machine of two shafts D D, provided with oblique seed-distributing wheels E, and having the wheel B, on which the machine is mounted secured to them, substantially as herein set forth.

Also, the peculiar form of construction of the seed-distributing wheels E, substantially as herein specified.

No. 49,819.—JOHN P. WOODCOCK, Bedford, N. Y.—*Gate Fastening.*—September 5, 1865.—This invention consists in the combination of two thumb spring levers, guarded by a hollow casing, with two hook-shaped spring levers within a tongue and projecting from the sides thereof, which interlock with two shoulders within a hollow socket placed in a gate post. When the tongue is inserted in the socket, the hooked levers interlocking the two shoulders hold the gate firmly in position. But the hooks are, however, easily removed by pressing together the two guarded spring levers.

Claim.—The combination of the thumb spring levers *m m*, spring levers *h h*, with hook-shaped ends, and hollow casing or socket *r*, arranged together substantially in the manner described and for the purpose set forth.

49,820.—WILLIAM D. WOODRUFF, Phelps, N. Y.—*Fence.*—September 5, 1865.—This invention consists in attaching to the lower ends of fence posts, above the ground, two metallic feet or angle irons, having lateral bearings on each side.

Claim.—The combination of the metallic feet or angle irons C, with the posts B, and longitudinal bars C', the whole constructed and operated substantially as described.

No. 49,821.—G. W. ZEIGLER, St. Louis, Mo.—*Chest and Table.*—September 5, 1865.—This invention consists in forming a chest which is subdivided into several apartments, and the lid of which is made of two thicknesses, hinged togeher and fastened to the chest, so that when in different positions, it answers for a lid to the chest, a dough-kneading board or a kitchen table.

Claim.—The double lids *a b*, the same being hinged together at *e e*, and the lid *a* hinged to the box A by means of the straps *f f*, so that in one position *a* and *b* only serve as a lid to the chest, so that when in another position *a b* and the chest form a kitchen table, and in a third position the same form a dough-kneading board, arranged and constructed as hereinbefore set forth.

No. 49,822.—WM. C. BAKER, Providence, N. Y., assignor to B. B. YALE, New York, N. Y.—*Fastening for Scythes.*—September 5, 1865.—This invention relates to a fastening for securing scythes to their snaths, whereby the scythe may be adjusted more or less angularly with the snath—that is to say, the point of the scythe may be adjusted nearer to or further from the operator as may be desired, and the scythe at the same time firmly secured to the snath.

Claim.—The securing of scythes to snaths by means of an eye-bolt C, arranged in such a manner as to clamp firmly the heel or tang of the scythes to the chamfered surface of the snath, and at the same time admit of being adjusted laterally so as to place the scythes in a more or less angular position with the snath, substantially as shown and described.

No. 49,823.—JOHN A. BASSETT, Salem, Mass., assignor to OLIVER BURNETT, Framingham, Mass.—*Steam Blower for Furnaces.*—September 5, 1865.—The object of this invention is to mingle air and steam, whereby steam and air may be utilized in promoting combustion in the furnace; it consists in a rotary jet wheel, a hollow arbor, fan wheel, and case, surrounding the latter.

Claim.—A steam blower, constructed of the mechanical elements, and to operate substantially in the manner and by the means as hereinbefore specified, such elements being the rotary steam jet wheel, its hollow arbor, the fan wheel, and an opening or case surrounding such fan wheel, the whole being for application to a furnace, in manner and for the objects as set forth.

No. 49,824.—JOHN BLACKIE, Washington, D. C., assignor to self, W. C. DODGE, and W. S. KING.—*Galvanic Battery.*—September 5, 1865.—This invention consists in so constructing a galvanic battery that it can be used for a long time without more attention than is neccessary for keeping it supplied with the proper acid, and that the zinc cup or plate may be preserved from the unequal and rapid decomposition so common in ordinary batteries. These objects are effected by immersing the zinc plate entirely instead of partially in the acid.

Claim.—First, the cup B, suspended by the insulated rods *g* and plate or ring *h*, as herein shown and described.

Second, the perforated plate *a* and *a'*, provided with the stud *c* and nut *d*, when constructed as and for the purpose herein set forth.

Third, the combination of the cup B, provided with mercury, the zinc plates C and the silver plate D, all submerged and arranged to operate substantially as and for the purpose set forth.

No. 49,825.—JOHN BUSER, assignor to HEINEMAN and SILBERMANN, New York, N. Y.—*Machine for Covering Cord.*—September 5, 1865.—This invention consists of a V-shaped trough, lying between the last roller which delivers the foundation threads and the point where the covering threads are wound upon them. Into the sharp angle of this trough the foundation threads, as twisted by the flyer, are compressed, for the purpose of making the core smooth and uniform. The spools containing the covering threads are on stationary spindles, and their threads, guided by fixed pins, pass within a fixed ring on their way to the core threads.

Claim.—First the trough *y*, in combination with a series of rollers or equivalent apparatus, to present the foundation threads to said trough and apply to them the required tension while being drawn along said trough and twisted, substantially as specified.

Second, in combination with the trough *y* the ring covering head, with its pins for guiding the covering threads as they are twisted upon the foundation as the latter passes from the trough to the fly or spool, as specified.

No. 49,826.—G. CONKLING, assignor to CAROLINE A. CONKLING, Conklingsville, N. Y.—*Process for Rendering Leather Water-proof.*—September 5, 1865.—This invention consists in saturating the pores of leather with a composition of beeswax, resin, and linseed oil. The composition is melted in a water-bath and the leather dipped into it.

Claim.—The within described process of dipping the leather, either manufactured or unmanufactured, into the heated liquid at a temperature of about 175 degrees, and suspending it in an atmosphere heated to about the same temperature, substantially as and for the purpose specified.

No. 49,827.—JOHN E. EARLE, asssignor to JOHN P. LINDSAY, New Haven, Conn.—*Machine for Making Cement Pipe.*—September 5, 1865.—This invention consists in the construction of the core so that it may be lowered to the bottom of the flask and gradually raised as the flask is filled, thus giving the entire diameter of the core for the convenience of the workman. The core is suspended on a screw rod, sufficiently elevated above the flask to allow the core being lifted out of the flask by turning a nut, and it is thus raised gradually as the filling progresses.

Claim.—Raising the core in the flask during the process of filling, and only as fast as the flask becomes filled, so that the top of the core is always down in the flask at or near the point of filling, substantially as and for the purposes specified.

No. 49,828—WILLIAM GOODWIN, assignor to J. P. LINDSAY, New Haven, Conn.—*Machinery for Making Cement Pipe.*—September 5, 1865; antedated August 28, 1865.—This invention consists in the construction of a shoe to press upon the surface of the stock, placed between the core and the case, and in the arrangement of a flanger to regulate the quantity of stock to each revolution of the shoe, and also a crane placed in the centre of a disk which rotates, and on which are several flasks.

Claim.—First, the construction and arrangement of the shoe or shoes F, with a core and flask, when the said core and shoes rise as the flask becomes filled, substantially as and for the purposes specified.

Second, the combination of the flanges *f* with a revolving head, substantially as and for the purpose specified.

Third, the arrangement of the crane M, in combination with one or more flasks, constructed to operate substantially as and for the purposes specified.

Fourth, the combination of the crane M, table B, and two or more flasks, substantially as and for the purposes specified.

No. 49,829.—GUSTAVE HEUZE, assignor to himself and EDWARD SOMMERKORN, New York, N. Y.—*Machine for Making Mouldings and Frames.*—September 5, 1865.—This machine is made to saw, plane, and coat the mouldings with the usual glaze, ready to make frames of any size.

Claim.—First, the hand screw *q*, applied in combination with the leveler J and belt I, substantially in the manner and for the purpose set forth

Second, the tubular attachment *l'* to the discharge spout *j* of the box containing the preparation in combination with adjusting plugs *l'*, constructed and operating substantially as and for the purpose specified.

Third, the vertically adjustable box H, applied independently of the leveler J, and acting in conjunction with the same, substantially as and for the purpose described.

Fourth, the splitter L, in combination with the belt I and leveler J, applied and operating substantially as and for the purpose specified.

Fifth, a machine combining a saw, a moulding cutter, a leveler and splitter, and a polisher, all constructed and operating substantially as and for the purpose described.

No. 49,830.—L. J. LABOUNTY, assignor to himself and ALLEN P. BICKFORD, Lowell, Mass.—*Picker Check for Looms.*—September 5, 1865.—This invention consists in an adjustable picker check, placed at the extremity of the shuttle-box, for the purpose of preventing the picker from striking too hard against the outer end of the slot of the race beam, and also to compensate for the loss of elasticity by the springs.

Claim.—The combination of the bunter *c*, made and provided with springs, as explained, with the adjustable holding frame B, having adjustments, substantially as specified.

No. 49,831.—G. A. LIEBEG, Baltimore, Md., assignor to NAVASA PHOSPHATE COMPANY, New York, N. Y.—*Manufacture of Super-phosphates.*—September 5, 1865.—This invention consists in a method of treating Navasa phosphate, or any other phosphatic compound, containing phosphate of iron and alumina. Chloride of sodium is added to the phosphate or muriatic acid is substituted for the sulphuric acid, commonly used for the decomposition of the phosphatic material.

Claim.—The use of sulphurous acid, or muriatic acid, or chloride of sodium, as a substitute for sulphuric acid in the production of a super-phosphate from Navasa guano, or other phosphatic compounds.

No. 49,832.—EDGAR MURRAY, New York, N. Y., assignor to WM. J. COOMBS, Brooklyn, N. Y.—*Skate.*—September 5, 1865; antedated September 1, 1865.—This invention consists in a clamping lever for the heel, sustained by an adjustable rod, which rod actuates clamps that grasp the sides of the boot sole, when the lever is turned to press upon the heel.

Claim.—The lever *e* formed with the cam-shaped clamp *f*, in combination with the rod or bar *g*, adjustable, as set forth.

Also, in combination with the said lever *e*, clamp *f*, rod *g*, and nuts *i*, the clamps *k k*, acting at the sides of the boot sole, as set forth.

No. 49,833.—IRA C. PRATT, assignor to himself and L. F. PRATT, Morton, Ill.—*Sulky Plough.*—September 5, 1865.—This invention consists in connecting the main body to the draught pole by means of joints or eyebolts, and the adjustment of the same through the medium of a lever from the driver's seat. In connection therewith the adjustment of the beams, together with the body aforesaid, in a vertical direction by a lever having a catch thereon, which catches into notches or holes in a plate attached to the said body.

Claim.—First, the plank A, to which the plough beams B are secured, connected with the draught pole I by joints or eyebolts *f*, and operated or adjusted by the driver on his seat, through the medium of a lever or arm, or their equivalents, substantially as set forth.

Second, the adjusting of the plank A, and consequently the plough beams and ploughs, higher or lower with the axle D, in order to regulate the depth of the penetration of the ploughs by means of the plate E secured to one end of the plank, and provided with a series of holes *c* in a vertical line, through any one of which the bolt *b* passes into the axle at one end, in connection with the slotted plate C, through which the axle passes, and the lever F, attached to the plank and bearing on the axle, substantially as and for the purposes set forth.

No. 49,834.—O. P. SECOR, Chicago, Ill., assignor to C. L. BELLAMY, Catskill, N. Y.—*Horse Hay-fork.*—September 5, 1865.—This invention consists of a device for causing the fork to discharge its load, and which will admit of the fork being readily adjusted so that the latter will hold or retain its load while being elevated, and which will also admit of the fork being cheaply constructed and easily manipulated.

Claim.—The tines *a a a a*, each formed in a continuous curve in one piece, with its shanks *b*, which shanks converge and are connected together at their upper ends in the described combination with the cross-bars *c c'*, catch *c f*, springs D, and eye *e*, all constructed, arranged, and employed in the manner and for the purposes specified.

No. 49,835.—ASA SESSIONS, Jr. assignor to LAMB KNITTING MACHINE COMPANY, Springfield, Mass.—*Knitting Machine.*—September 5, 1865.—This invention is designed as an improvement on Lamb's patent of September 15, 1863, and relates to the means of regulating the supply of yarn to the needles. A pivoted wire arm, through whose end the thread is passed, is by the motion of a slide caused to vibrate, and thus to move the thread guide alternately to either end of the slot, and beyond the range of needles at both ends, and at the same time pulls the yarn from the bobbin and produces tension upon it sufficient to prevent tangling.

Claim.—First, the combination of the arm C, hub *c*, and bridge B, with the slider *n*, and bed piece A, substantially in the manner and for the purpose described.

Second, the combination of the wire *h*, or its equivalent, and the spring *k*, when used in connection with the other parts of the machine, substantially as described.

Third, the spring D, when used in combination with the other parts of the machine, in the manner and for the purpose described.

Fourth, the bridge B, slotted as described, when applied to a knitting machine, as and for the purpose herein set forth.

No. 49,836.—H. S. SHEPARDSON, Shelburne Falls, Mass., assignor to H. S. SHEPARDSON & CO.—*Grater for Spices and Fruits.*—September 5, 1865.—This invention consists in the form and arrangement of the punched holes, so as to leave a fin or rasping edge on the portion stamped down or through, and also a throat through which the rasped or grated material may pass.

Claim.—Punching a plate or plates for graters, so as to have a fin or lip, a throat and a conducting channel, substantially as herein described and represented.

No. 49,837.—JOHN J. SIBLEY, New York, N. Y.—*Sewing Machine Stitch.*—September 5, 1865.—This is an embroidery stitch, and the object of the invention is to throw the greater quantity of the thread or cord upon that side of the cloth on which the embroidery is to show. This is accomplished by passing a thread or cord through the loops made by the piercing needle of a double-loop sewing machine. It may be made by any machinery that will throw a threaded shuttle through such loops.

Claim.—The sewing machine stitch, described and shown in the drawing.

No. 49,838.—SAMUEL D. TURNER, assignor to the UNION HORSESHOE COMPANY, Providence, R. I.—*Machine for Punching Horseshoes.*—September 5, 1865.—This invention consists in arranging two punches at the proper distance apart to punch two alternate holes; upon each side of these two punches are two other punches or points, the upper ends of which rest against yielding substances. When the bar has been moved along for the other two alternate holes, one of these points, which projects lower than the points of the rigid punches, will enter one of the punched holes, and act as a guide to regulate the proper distance that the bar shall be moved before the last holes are punched. The holes being punched thus alternately, the iron is less liable to split.

Claim.—A machine for punching horseshoes, consisting of one or more elastic gauge points *b b*, operating in the manner substantially as described for the purposes specified.

No. 49,839.—SAMUEL S. WEED, Stoneham, Mass., assignor to EDGAR M. STEVENS and JAMES L. HALL.—*Apparatus for Removing Hair from Hides.*—September 5, 1865.—This invention consists of a roller supported in a frame. A feed roller has its bearings in the frame, and a lower feed roller has its bearings in the ends of the levers. The roller is made to revolve more rapidly than the feed rollers by means of suitable gearing. The hides are placed between the feed rollers and the lever is depressed, bringing the hides in contact with the roller. The wheels are brought together by the same operation and the rollers are thus put in motion.

Claim.—First, removing hair and lime from hides or skins by means of a rotating cylinder covered with rubber, substantially as described.

Second, the combination of the cylinder D, feed rollers I and K, levers L L, and treadle P, substantially as and for the purpose described.

Third, the brush W, when combined and operating with the cylinder D, substantially as described.

No. 49,840.—ALONZO E. YOUNG, Dorchester, Mass., assignor to himself and JOHN W. HAINES, Somerville, Mass.—*Caster Bottle Holder.*—September 5, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The improved manufacture of glass caster bottle holder, made not only with a disk, a plate and a flange to extend around and project below such disk, but the cups to open out of and extend below the disk, in manner as specified, the flange under such circumstances serving to hide the cups more or less from view when the article may be in use with its stand on a table.

No. 49,841.—ALONZO E. YOUNG, Dorchester, Mass., assignor to himself and JOHN W. HAINES, Somerville, Mass.—*Caster Bottle Holder.*—September 5, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—In the manufacture of the caster or bottle holder made of glass and in one piece, the arrangement of the cups, feet, connection, and handle-fastening socket, as specified.

No. 49,842.—FRANÇOIS FERDINAND AUGUSTE ACHARD, Paris, France.—*Electro-magnetic Regulator.*—September 5, 1865.—This invention relates to an electro-magnetic apparatus, which is applicable for the purpose of operating boiler feeds, or regulating the pressure of steam or gases in closed vessels, and which may be also used for the purpose of operating car brakes, and for various other purposes.

Claim.—An electro-magnetic apparatus composed of a sectional ratchet wheel A, working beam D, double ratchet E, electro-magnets F, and armature O, constructed and operating substantially as and for the purpose herein shown and described.

No. 49,843.—HENRY C. BAILDEN, Edinburgh, Scotland.—*Writing Fluid.*—September 5, 1865.—This invention consists of a composition of dilute sulphuric acid, indigo paste, and a small proportion of magenta or other aniline coloring matter.

Claim.—The use, for the purpose described, of paper tinted or colored with a coloring matter susceptible of being acted upon by sulphuric or other destructive acid, combined with the use of an ink composed of sulphuric or other destructive acid and a coloring matter, such ink being capable of discharging and changing the color of the paper, and changing or weakening the texture thereof in the parts written upon, substantially as herein set forth.

No. 49,844.—JAMES DALZIEL DOUGALL, Westminster, Great Britain.—*Breech-loading Fire-arm.*—September 5, 1865.—This invention is intended for heavy rifles to be mounted on supports, and consists in having the breech-piece hinged to a projection beneath the rear of the barrel by an eccentric shaft operated by a side lever. An annular tongue on the rear of the barrel enters a corresponding recess in the breech-piece, and a suitable lug and recess in the lower projection from the barrel further holds the breech firmly in position when closed and drawn closely home by the action of the lever and its eccentric.

Claim.—First, the combination of the breech-piece E, its recess *e*, the pin *c*, eccentric *b*, and barrel A, with its annular projection *f*, the whole being constructed, arranged, and operating substantially as and for the purposes herein set forth.

Second, the projection *i* on the breech-piece, in combination with the notch *k*, in the tongue on the underside of the barrel.

Third, the pin *l* on the breech-piece, in combination with the inclined or curved notch *n* in the breech-piece, for the purpose specified.

No. 49,845.—J. A. BARDEL, Freeport, Ill.—*Cultivator.*—September 12, 1865.—In this invention the beams are pivoted to the frame by swivel joints. The plough beams are moved laterally by means of treadles and an extension bar between the plough beams.

Claim.—First, the plough beams F F, attached to the front part of the frame C by universal joints *a*, in combination with the laterally-swinging extension bar D and levers H H′, all arranged to operate substantially as and for the purpose herein set forth.

Second, the treadles I I, in combination with the plough beams and extension bar D, as and for the purpose specified.

No. 49,846.—E. T. BARNUM, Waterbury, Conn.—*Button.*—September 12, 1865.—This invention is fully set forth in the claim.

Claim.—A button attached within the cloth or garment by means of a stem and cross-piece, the latter entering a slot in a disk and resting in a groove transverse thereto, all substantially as shown and described.

No. 49,847.—J. D. BEERS, Philadelphia, Penn.—*Steam Generator.*—September 12, 1865.—This invention consists in combining with the tube of the boiler a plate, so arranged as to encompass all the tubes and leave a small space between them and the plate, and a larger space between it and the boiler, the object being to create an upward current of water around and among the tubes, and down around the surface of the boiler. A plate similar to the above-named is placed around the fire-box, leaving the space for the circulation of the water, the novelty in this case consisting in the combination of the plate with the devices for holding it in its proper position with reference to the heating surface of the fire-box.

Claim.—First, the combination of the tubes *a* with the plate *b*, the stays *d*, and the shell of the boiler A, as described and set forth.

Second, the combination of the heating surface N with H F and A, as described and set forth.

No. 49,848.—HIRAM BERDAN, New York, N. Y.—*Gun Wiper.*—September 12, 1865.—The gun wiper is split longitudinally in several places for the purpose of giving it an elastic expansion, and it is transversely grooved or serrated externally in the usual form, to enable it to hold the patch or wiping cloth used with it.

Claim.—As a new article of manufacture the expanding gun wiper, constructed with elastic leaves grooved upon their exterior surfaces, as herein specified.

No. 49,849.—T. J. BLACKBURN and E. P. TERREL, Spring Hills, Ohio.—*Invalid Chair.*—September 12, 1865.—This invention consists of a chair provided with a back pivoted to the frame and a sliding foot-rest, both so arranged in connection with a lever at the right chair arm that the occupant may, by means of said lever, bring the foot-rest into position for use and against the back at any desired angle.

Claim.—First, the arms *b*, extending from the rock shaft *a*, serving as adjustable braces and stops, in combination with the back D, arranged to operate substantially as herein shown and described.

Second, pivoting the back D to the frame at a point near the centre of its length, so as to bring its lower part in the path of the arms *b*, substantially as herein specified.

Third, the slide board E, forming an extension seat, in combination with the rod *e* and back D, arranged to operate substantially as herein shown and described.

No. 49,850.—W. B. BLAISDELL and J. E. ATWOOD, Lynn, Mass.—*Carpet Fastener.*—September 12, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The combination of the fastener A A, groove and tongue E E, and pins *g g*, when made and used for the purpose herein described.

No. 49,851.—JOHN BOGUE, Auburn, Wis.—*Evaporator.*—September 12, 1865.—This invention consists of an evaporating pan supplied with sap from a tank by means of a pipe. The flow of the sap is regulated by means of a float provided with a conical plug, which enters a pipe and closes it when the pan is full. The float is provided with a vent for the escape of the air as it becomes expanded by the heat.

Claim.—First, the arrangement of the hollow float F, plug *f*, tubes D and F, reservoir C, and pan A, substantially as described.

Second, constructing the float with a ventage tube *f'*, or an equivalent aperture, for the purpose explained.

No. 49,852.—JOHN L. BRYANT, Logansport, Ind.—*Floor Clamp.*—September 12, 1865.—This invention consists of a floor clamp having an inclined plane and jams that can be attached to a joist when in use, and then be easily released by a reverse blow from the direction of pressure. The clamp is operated by a lever and pinion working in a rack which causes the plunger of the clamp to project and be controlled by a ratchet and pawl.

Claim.—First, the described arrangement of the jaws or tugs F F, inclined plane or planes H H, or their equivalent, to form a clutch, for the purpose described.

Second, the application of the lever A, ratchet B B, pinion E, and pawl C in combination with the clutch, for the purposes set forth in the specification.

No. 49,853.—WILLIAM BUCHANAN, New York, N. Y.—*Piston Packing.*—September 12, 1865.—This invention consists in combining with the piston head a single bull-ring formed separately from the spider and having three ribs upon its outer surface for the purpose of retaining in position two sets of packing rings which are cut at a single point and sprung into the grooves between the ribs. There is a tongue-piece adapted to defend the joint of the cut-ring against the passage of steam both longitudinally and radially, which constitutes another feature of the invention.

Claim.—First, in combination with a piston A1 A2 the single bull-ring B, formed separate from the spider of the piston, and having the three ridges *b b1 b2*, with suitable packing in the spaces between the ridges, substantially as and for the purpose herein set forth.

Second, a tongue-piece D, adapted to defend the joint in the packing ring C against the passage of steam both longitudinally and radially, substantially in the manner and for the purpose herein set forth.

Third, the surfaces *d' d** on the tongue-piece D in combination with the surfaces *c' c** in the packing ring C', arranged substantially in the manner and for the purpose herein set forth.

Fourth, the groove E under the tongue-piece D, and adapted to insure the admission of the fluid, substantially as and for the purpose specified.

No. 49,854.—CARL BURCHARDT, New York, N. Y.—*Fastening for Shoes.*—September 12, 1865.—This invention consists in a retaining clasp in which the lacing, after passing around heads, is tightly fixed, the said clasp consisting of a moving part which, being pushed forward, presses the string upon a metallic projected face, and thus retains the same.

Claim.—First, the slide M, way L, and surface K, arranged close to the line of the cord I, or its equivalent, to be retained substantially as and for the purpose herein set forth.

Second, the heads J, or equivalent eyes, cord I, and retaining clasp M *k*, arranged relatively to each other and to an article of clothing, substantially in the manner and for the purpose herein set forth.

No. 49,855.—THOMAS CALLAN, Philadelphia, Penn.—*Condenser.*—September 12, 1865.—This invention consists in passing the pipe which serves to draw the injection water from the condensing chamber through chamber or chambers, either in a direct or serpentine course, in such a manner that the injection water while passing through such chambers, which are filled with cold water, is cooled to a lower temperature than it could otherwise be, in consequence of its contact with the cold water.

Claim.—Passing the pipe *d* through which the condensed water is drawn off from the chamber A through one or both cold-water chambers B B′, substantially as and for the purpose set forth.

No. 49,856.—JASPER CHAPMAN, Linn county, Iowa.—*Corn Cultivator.*—September 12, 1865.—In this invention a semicircular foot lever operates, by a small bar at right angles to its apex, two pointed bars that move the ploughs laterally.

Claim.—First, the double bars *d*, constructed and operating as and for the purpose set forth.

Second, the combination of the lever L, the plate *k*, and the beams *h h*, in the manner and for the purpose herein specified.

No. 49,857.—JAMES J. CLARK and HENRY SPLITDORF, New York, N. Y.—*Sounder Magnet.*—September 12, 1865.—This invention consists of a metallic rod connecting the anvil of a sounder magnet with the other side of the box containing the magnet, for the purpose of conducting the sound produced by the blow of the hammer upon the anvil to the other side of the said box, and thus making it sharper and more distinct.

Claim.—The rod C, or its equivalent, in combination with the anvil D, arranged in the manner and for the purposes as hereinbefore specified.

No. 49,858.—THOMAS CLARK, Cohoes, N. Y.—*Valve for Steam Engines.*—September 12, 1865.—The object of this invention is to produce a valve for steam engines which shall be easy of construction, not liable to derangement by use, and not liable to the objections usually experienced in slide-valves. Its novelty consists in the combination of valves with a partition and with a rocking lever.

Claim.—The valves *e e* e′ e′*, fitted into suitable seats in the bottom or ends of the valve chest, in combination with the partition *a* and with a rocking lever *k l m*, constructed and arranged substantially as and for the purpose set forth.

No. 49,859.—ISAAC COOK, St. Louis, Mo.—*Flour Packer.*—September 12, 1865.—The object of this invention is to pack flour in a barrel or sack by machinery which does its work automatically, and it consists in providing suitable machinery for rotating two auger-shaped packers, arranged on a grooved shaft to allow one to pack the flour and rise on the shaft, while the other revolves and delivers the flour into the barrel or sack. Also, in the arrangement of the pressure devices by means of guides and a weighted lever operating the pressing head so that the desired force can be regulated thereby.

Claim.—First, the platform B, the rock shaft *f*, the cams *g g*, the lever *f′*, the toothed pawl *f″* and the pin *f‴*, when constructed and operating as and for the purpose set forth.

Second, a flour packer constructed with two augers, one of which has a rotary motion only, while the other has both a rotary and a vertical motion, so that it may descend into the barrel, and, as it revolves, pack the flour beneath it, and can, at the same time, rise to the top of the barrel.

Third, passing the head F′ between the stationary guide G and the adjustable guide G′ for the purpose of producing the requisite amount of pressure on the auger F′, the guide G′ being drawn toward the guide G with more or less force, as may be desired, by means of the weighted lever H′, as recited.

No. 49,860.—A. G. CUMNOCK, Lowell, Mass.—*Self-Acting Mule.*—September 12, 1865.—This is a tension regulator for "winding on," whereby the use of a loaded lever is dispensed with, and its irregular action upon the yarn avoided. When the tension of the yarn is greater than is desirable their pressure upon the wires *q* causes the arm *v* to depress the rod *i*, thus forcing the fork *i′* between the pins *h h*, and so clamping the belt *e* that the carriage in "running up" will give motion to it, and through it to the pulley *d*, bevel-gears *a* and *b*, and screw F upon the quadrant. By this means the slide E is moved and the chain D slackened to reduce the velocity of the spindles. The spring *k* restores the parts to their former osition.

Claim.—The combination of the rod *i*, spring *k*, arm *l*, and the fork *i'* and pins *h h*, or other equivalent clamping device, the whole applied in combination with the mule carriage and belt *e*, to operate substantially as and for the purpose herein specified.

No. 49,861.—A. G. CUMNOCK, Lowell, Mass.—*Self-acting Mule for Spinning.*—September 12, 1865.—The first clause of the claim states the function and object of the device claimed therein. The object of the improvement covered by the second clause is to drive the whole of the spindles on either side of the mule-head from one common horizontal cylinder, instead of by means of several vertical drums, and to dispense with a clutch on the horizontal shaft which runs the whole length of the carriage.

Claim.—First, the mangle wheel D, having its inside gearing and guard constructed substantially as herein described, applied to a mule in such manner as that it is made to check the movement of the carriage and the winding-on movement of the spindles, as the carriage strikes in, without the use of a scroll friction brake or binders.

Second, combining the shaft *k*, of the carriage from which the spindles are driven, with the drum N, on which the chain *p*, from the quadrant gear, is wound, by means of gears L Q P, a disk L', or its equivalent, a pawl K, and a ratchet wheel *m*, the whole applied and operating substantially as herein specified.

No. 49,862.—ROBERT DENHOLM, Newburg, Ohio.—*Hot-blast Apparatus.*—September 12, 1865.—This invention consists of a chamber made of brick or other suitable material, and containing a series of arch-pipes, the said pipes being connected with flues. The said flues rest upon blocks, instead of being walled up in the stack, or covered with brick-work. The walls of the chamber are provided with openings, for convenience of getting at the pipes, if required, and there are openings for the admission of gas-pipes from the furnace. The draught from the fire-place is through the throat and chimney.

Claim.—The sectional flues A, mounted on the blocks D, in combination with the curved pipes C, arranged within a furnace E, having its throat H opening into the chimney near its base, as and for the purpose herein set forth.

No. 49,863.—C. H. DEVEREUX, New York, N. Y.—*Watch Safe.*—September 12, 1865.—A metal plate is secured to the inner side of the pocket. A metal cap, large enough to cover the watch, is hinged at its under side, and opened against the resistance of a spring.

Claim.—The safe above described, constructed and operated substantially as and for the purpose herein set forth.

No. 49,864.—JOHN A. DICKSON, Scranton, Penn.—*Railroad Rail.*—September 12, 1865.—This invention consists in forming a rail of two parts, the upper portion being in the form of a T-rail, with or without a tongue projecting from the bottom, and an under portion, being flat or slightly concave in the bottom, and with a wider or narrower groove on the upper side to receive the tongue on the bottom of the upper portion or the entire base thereof.

Claim.—The construction of a compound rail or bar, consisting of an upper portion in the form of a T-rail, with or without a tongue projecting from the bottom, and an under portion, being flat or slightly concave in the bottom, and with a narrower or wider groove on the upper side to receive the tongue on the bottom of the upper portion on the entire base thereof, as above described.

No. 49,865.—IRA DIMMOCK, Florence, Mass.—*Machine for Combing Cotton.*—September 12, 1865.—The two nipping cylinders rotate intermittently, and, by the opening and closing jaws, transfer the fibre from one to the other so as to comb both ends. The intermittent friction on the cylinders is caused by springs bearing upon projections on the ends of the cylinders. The feed rollers and comb vibrate to and from the first nipping cylinder, and deliver to it a tuft from the fleece. This tuft is then acted on by a combing drum, having graduated rows of teeth. It next passes the second nipping cylinder and to a similar combing drum, and next to a doffer.

Claim.—First, the arrangement of the two nipper cylinders *d' d'**, the doffer *f'* for the combed fibre, the two combed cylinders *b2 b2*, the rotary brush *a2*, and oil doffer *c*, substantially as herein described, to operate as set forth.

Second, applying friction to counteract the momentum of the nipper cylinders during the latter part of each movement, substantially as and for the purpose herein specified.

Third, so arranging a rotary series of combs, of different degrees of fineness, in relation to a nipper cylinder, that the fibres will be acted upon, first, by a coarse-toothed comb, and afterwards successively by combs each having finer fibres than its predecessor, substantially as herein specified.

Fourth, the comb K2, applied in connection with the feed rollers, and in relation to the nipper cylinder of a combing machine, substantially as herein described, and operating as herein set forth.

No. 49,866.—J. H. DOOLITTLE, Ansonia, Conn.—*Fruit Box or Basket.*—September 12, 1865.—This invention consists in making the top of each basket or box so small that it will

fit into the bottom of the next box above when packed in tiers, and the bottom of the upper box rests upon its edges.

Claim.—A fruit box or basket, made smaller at the top than at its bottom, so that the bottom of each box may rest upon the top edge of the box beneath it, when a series is packed together, substantially as and for the purpose set forth.

No. 49,867.—M. EASTERBROOK, Geneva, N. Y.—*Harrow.*—September 12, 1865.—This invention consists in adjusting and controlling the teeth by means of a lever latch locking into a segment, whereby the teeth are controlled and adjusted while the harrow is in motion.

Claim.—The employment or use of the self-locking lever *h*, whereby the axial bars to which the teeth *t* are attached may be controlled and adjusted while the harrow is moving, substantially in the manner and for the purpose shown and described.

No. 49,868.—J. E. EMERSON, Trenton, N. J.—*Saw Teeth.*—September 12, 1865.—This invention consists in securing the teeth to circular saws of that class which are provided with detachable teeth in such a manner that they will not be liable to become casually loose, and will be capable of being readily secured to and detached from the saw.

Claim.—The curved tooth *a c b*, constructed and applied to a saw-plate in the manner herein specified.

No. 49,869.—CYRUS FISHER, Leesville, Ohio.—*Method of Preventing Insects from Injuring Fruit Trees, &c.*—September 12, 1865.—This invention consists in first washing the body of the tree with soft soap, after which a wash of turpentine is applied. A solution of salt in boiling lye is then applied to the roots of the tree.

Claim.—First, the mode herein described of protecting trees or vines from insects, by the combined use of the three distinct applications, substantially as set forth.

Second, pouring a boiling solution of lye and salt around the roots of trees and vines, for the purposes specified.

No. 49,870.—NATHANIEL W. FOYE, Cambridge, Mass.—*Flour Sifter.*—September 12, 1865.—This invention consists of a wire sieve attached to a hopper in the usual concave form, in which is placed a horizontal shaft on which is arranged a spiral brush that can readily be removed from the sieve for cleaning.

Claim.—The removable rubbing or brush shaft C, with its shouldered head or disk D, in combination with the box or hopper A and sieve B, substantially as and for the purpose set forth.

No. 49,871.—WILLIAM GEE, New York, N. Y.—*Method of Constructing the Acid Chambers of Soda-water Apparatus.*—September 12, 1865.—This invention consists in so constructing the stuffing box that the elastic rubber packing contained therein may be compressed, and thus secure the valve firmly against its seat. The invention also consists in making a flange on the lower part of the lead lining, and bolting the valve seat against the said flange.

Claim.—First, making an acid chamber or vessel to hold acid for a soda-water apparatus or generators, lined with one piece of sheet lead, having a flange turned at the bottom as well as at the top, with a valve seat of pure lead bolted between the flange of the acid chamber and the flange of a generator, making a chamber or vessel free from all solder, tin, burned seams, or rubber joints where acid comes in contact.

Second, the wrench K, in combination with the stuffing box H, for releasing the packing when the valve is to be raised, and to tighten the packing and make a friction, and keep the valve from blowing up when the valve is down, as herein described.

No. 49,872.—H. A. GILBERTSON, New York, N. Y.—*Folding Seat for Wheel Vehicles.*—September 12, 1865.—This invention consists in attaching the back and sides of a carriage seat to the seat itself in such a manner that they will automatically fold and unfold as the seat is turned up for use, and turned down when not in use.

Claim.—A folding or hinged seat for wheeled vehicles, provided with a back and sides, either or both, arranged and applied in such a manner as to admit of folding automatically by the folding or turning up or down of the seat, all constructed substantially as herein shown and described.

No. 49,873.—SYLVANUS M. GILLETT, Homer, N. Y.—*Gate.*—September 12, 1865.—In this device a jointed iron bar folding with the gate is used to strengthen one of the common slatted gates that fold back laterally into a recess in the post.

Claim.—The use of the jointed bar F, in combination with the slats *c c*, so formed as to make a folding gate, as and for the purpose specified.

No. 49,874.—JOHN K. GITTENS, Brooklyn, N. Y.—*Insole for Boots and Shoes.*—September 12, 1865.—This invention consists in an insole made of sheepskin, with a woolly surface on one side and an enamelling or coating upon the other side.

Claim.—As a new article of manufacture an insole for boots and shoes made of sheepskin, with a woolly surface upon one side and any suitable enamelling or protective covering or coating upon the other, substantially as described.

No. 49,875.—WILLIAM H. HAMILTON, Albany, N. Y.—*Telegraph Repeater.*—September 12, 1865.—The nature of this improvement is explained by the claim and engraving.

Claim.—The batteries P R P′ R′, applied in combination with sounders A A′, receiving magnets L L′, registering levers D D′, and main wires *a a′*, substantially as and for the purpose set forth.

No. 49,876.—THEOPHILUS HARRISON and WILLIAM BUCHANAN, Belleville, Ill.—*Grain Separator.*—September 12, 1865.—The slats of the riddles have double-bevelled upper sides and projecting wires, and the successive slats descend as they recede from the fan. Underneath each slat a flap is hinged and falls against and rests upon a horizontal bar.

Claim.—First, the construction of the riddles, consisting of transverse slats *f*, with double-bevelled upper sides and with projecting wires *g* spanning the intervening spaces, the successive slats descending as they recede from the fan, substantially as described.

Second, the boards or flaps *h*, attached to the strips or bars *f*, to operate in combination with the bar D, in the manner substantially as and for the purpose set forth.

No. 49,877.—PETER HAYDEN, Pittsburg, Penn.—*Automatic Press.*—September 12, 1865.—This invention consists in a slide working vertically in ways upon the framework of the machine, effected by an eccentric upon the driving shaft, having near the top a wide opening through which a table projects horizontally from the framework. Upon said table is a feed-wheel having several holes arranged at equidistant points on a circular line between the centre and peripheries, and a corresponding number of teeth in its periphery. The blanks to be swaged are dropped into these holes, when a pin in the driving wheel sticks one of the said teeth and carries the blank over a hole in said table, where are fixed the dies. A punch, projecting downward from the top of the slide, now comes down through the hole in the feed-wheel, and swages up the blank, and then rises out again, when another pin, projecting upward from the lower part of the slide, now raises the finished work out of the dies, and another operation of the pin upon a tooth of the wheel carries the work over a hole in the table, where it drops through, and another blank is presented to the dies.

Claim.—The feed wheel G, provided with holes *g* to receive the work to be operated upon, and moved by means of the rotation of the driving wheel C, through the medium of the teeth on the feed wheel and a pin attached to C, or other equivalent means, in connection with the bolster plate F, and the pins I J, and operated from the wheel C, through the medium of a cam, substantially as and for the purpose herein set forth.

No. 49,878.—W. S. HICKS, New York, N. Y.—*Pen and Pencil Case.*—September 12, 1865.—This invention consists of a case for holding a metallic pen, it being a single tube sufficiently short to be carried conveniently in the pocket, with a pencil so arranged that it can be used without shoving in the pen, thus leaving both pen and pencil ready for use at will, one at one end of the tube and the other at the other end.

Claim.—First, the case A, consisting of a single tube, and provided with the cap *c* and tube *e*, constructed and arranged to operate as herein shown and described.

Second, in combination with the case A, as above described, the pencil B, constructed and arranged to operate in the manner and for the purpose set forth.

No. 49,879.—ALVIN J. HOBBS, Kokomo, Indiana.—*Car Coupling.*—September 12, 1865.—This invention consists in using for a car coupling, instead of the ordinary link and pin, a double-headed shackle, the heads having sides coming to an apex, and nearly square shoulders, working in a buffer or drawhead between jaws consisting of transverse bars moving up and down in slots in the side of the drawhead, said bars being separated by double eccentric cams and levers, and held firmly in position by India-rubber elastic bands passing around them, or semi-elliptic springs placed above and below them, so that the bars forced apart by the wedge-shaped head return and bear firmly against the shoulders as soon as the head of the shackle bar has passed them, and so remain until, by raising the lever by means of the double eccentric cams, the jaws are forced asunder and the escape of the shackle bar permitted.

Claim.—First, connecting the jaws of a self-acting car coupling of two transverse bars D and D′, supported firmly in front by breasting upon the solid portion of the drawhead, substantially as set forth.

Second, the construction of a double extension cam C for the purpose of separating the jaws D and D′ in such manner that, being suspended at the centre *c*, it may be operated from the extremity with any advantage of leverage that may be necessary.

Third, the combination of the drawhead A, the transverse bars D and D′, the elastic bands M, or equivalent springs the double eccentric cam C, rods E, and cross-head F, with the shackle bar B, substantially as described and for the purposes set forth.

No. 49,880.—ROBERT J. HOLLINGSWORTH, Cincinnati, Ohio.—*Soldering Fruit Cans.*—September 12, 1865.—This invention consists of a hollow plate, which is so constructed with non-conductors that it is heated in sections by means of a furnace beneath. Upon each section a can is placed, and thereby the solder wire which has been previously placed within the can is melted and the joints securely soldered.

Claim.—The plate C, constructed and operated substantially as described, for soldering the joints of metallic fruit cans.

No. 49,881.—CHRISTOPHER R. JAMES, Jersey City, N. J.—*Machine for Cutting Wood Gear.*—September 12, 1865.—The object of this invention is to cut the teeth of gear wheel patterns by machinery, and it consists in arranging on a lathe bench a sliding cutter carriage, having a revolving cutter of the shape of the side of the tooth, so that as it revolves it cuts the space between two teeth, and having a graduated dividing plate which governs the spaces between the teeth.

Claim.—The arrangement of the sliding cutter carriage, the revolving cutter stock M, and cutter P, and the revolving dividing plate E, substantially as and for the purpose herein specified.

No. 49,882.—JAMES D. JONES, Pittsburg, Penn.—*Grain Drill.*—September 12, 1865.—This invention consists in an arrangement of the agitator gauge and adjustable cut-off plates, in combination with a reversible chute above the seed box, and an adjustable drag bar.

Claim.—First, the arrangement of the hopper E, agitator F, gauge plates G H, cut-off plate *i*, adjustable hangers *j*, lever bar *k*, and connecting rods *l*, constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

Second, the combination of the reversible chute *x* with the adjustable drag bar *y* and tooth *n'*, as described, and for the purpose set forth.

No. 49,883.—JAMES D. JONES, Pittsburg, Penn.—*Adjustable Drag Bar for Grain Drills.*—September 12, 1865.—In this invention the front part of the drag bar is composed of two thin strips of iron, pierced with several holes to vary the length of the drag so that the tooth may be arranged in front as well as in the rear of the axle.

Claim.—A new article of manufacture, to wit, an adjustable drag bar for grain drills, said bar consisting of parts A and B, constructed, arranged, and operating in the manner herein described and for the purpose set forth.

No. 49,884.—JOHN F. JONES, Rochester, N. Y.—*Machine for Making Paper Board.*—September 12, 1865.—This machine comprises two endless wire aprons, between which the pulp is pressed, a swing frame that supports the upper endless apron, deckle boxes of proper dimensions on each side for the purpose of confining the pulp while undergoing pressure between the aprons, an arrangement of coucher, felt, first press, tank, and felt beater, in connection with the lower apron, for the purpose of carrying the web forward, and a steam table for properly drying the web.

Claim.—First, the combination of two wire mesh aprons B E, between which the pulp passes, with suitable pressure rollers G G *a a*, or equivalents, for forming board in a continuous or indefinite length.

Second, the construction and arrangement of the frame H, made up of the parts and adjusted in the manner hereinbefore set forth, and used in connection with the endless apron E and cylinders G G, substantially as and for the purpose herein specified.

Third, the double boxes S S, in combination with the endless aprons B E, substantially as and for the purpose herein set forth.

Fourth, the employment of the adjustable rollers *u u*, in combination with the deckle straps *s s* and boxes *q q*, for the purpose of holding said straps to their work, substantially as described.

Fifth, the arrangement of the soft coucher T, felt *y*, first press U V, wash tank V, and felt beater W, used in connection with the endless apron B and roller D in such a manner as to take the web from the said apron and convey it upward to the press without injury or loss of pulp, substantially as herein set forth.

No. 49,885.—JOSEPH JONES, West Albany, N. Y.—*Railroad Car Brake.*—September 12, 1865.—This invention consists in the arrangement of the brakes upon a sliding bar or rod, connected with the truck frame, so that the contact with the wheels shall be in a direct line, and both brakes operate together upon the wheels; also, in the means of supporting the brakes in such a manner that if they should become broken or detached they would not fall upon the track.

Claim.—The combination and arrangement of the sleeves A A with brake bars *c c*, shoes D D, and jaw braces *m m*, operating substantially in the manner and for the purposes set forth.

No. 49,886.—ELI KEITH and BARCLAY THORN, La Fontaine, Ind.—*Composition for Tanning.*—September 12, 1865.—This invention consists of a composition of terra japonica, lye, salt, and sulphuric acid.

Claim.—The combination of ingredients in the proportions and in the manner substantially as described and for the purpose described.

No. 49,887.—C. M. KELLER, New York, N. Y., and J. HENDERSON, Brooklyn, N. Y.—*Manufacture of Ice.*—September 12, 1865.—This invention consists in exposing the water to be frozen in a series of pans made of thin sheet metal or other good conductor of caloric,

the said pans being made of the form required for the blocks of ice, and suspended by their rims, so as to expose their outer surfaces to the action of the atmosphere. The pans are suspended in frames which may be made to move rapidly through the air, or a current of air may be made to circulate around said pans.

Claim.—Exposing water in a series of pans or vessels made of some good conductor of caloric, and suspended by their rims so as to expose their outer surface to the action of the atmosphere, substantially as described.

Also, combining with the series of freezing pans the means substantially as herein described for causing a more energetic action of the air on the surface of the said pans, as described.

No. 49,888.—DANIEL KELLY, Grand Rapids, Mich.—*Machine for Wiring Window-blind Rods.*—September 12, 1865.—This invention consists in providing a movable box into which the wires or staples are dropped, and from which they are driven forward by a follower into the blind rod, the box moving with the staple until its end comes in contact with the rod, thus arresting the progress of the follower, the end of the box acting as a gauge to regulate the depth the staples are driven or the length that they extend out.

Claim.—First, in a machine for wiring blind rods, the sliding box *c*, constructed and operating substantially as above described.

Second, the driver *d*, fitted over the back end *f* of the sliding box, as above set forth, and with a rebate on its lower front edge to overlap the staple, substantially as described.

Third, the combination of the sliding box *c* with the driver *d*, substantially as described.

No. 49,889.—JAMES M. KING, Quincy, Minn.—*Binding Attachment to Reaper.*—September 12, 1865.—This invention relates to the construction of a supplementary carriage, to be attached to the rear of the reaper platform, and upon which the attendants are located for binding the grain, and to the means for adjusting said carriage.

Claim.—First, in combination with the seat F and inclined board G, the rake E, when attached by the elastic cord *e* and the rake stand D, substantially as described.

Second, in combination with the carriage A, the adjustable caster wheel H, arranged, operated, and operating substantially as described.

No. 49,890.—J. H. KIRKWOOD, Cleveland, Ohio.—*Chimney Cap.*—September 12, 1865.—This invention consists of a cap composed of a series of slats on the sides and ends inclined upward and secured to standards, and provided with a bonnet on its top. It is supposed that when currents of air strike this cap in any direction they will be deflected upward by the inclination of the slats and bonnet, and thus be prevented from passing down into the chimney to obstruct the draught.

Claim.—The chimney cap, when constructed of a series of fixed rectangular slats *p*, arranged on the sides and ends in an inclined position, overreaching each other, and each series connected at the ends to the single obliquely-set standards E, in combination with the bonnet *c*, furnished with a rectangular opening upon its top, and the flange *d*, in the manner and for the purpose set forth.

No. 49,891.—FREDERICK KLETT, Philadelphia, Penn.—*Manufacture of Fertilizer.*—September 12, 1865.—This invention consists in decomposing feldspar or other minerals containing alumina, silica, and potassa, or soda, or both, so as to obtain a soluble silicate of lime and alumina, and a phosphate of potassa or soda. The feldspar is mixed with carbonate or hydrate of lime, fluoride of calcium, and phosphate of lime, and the mixture is calcined in a furnace for about five hours.

Claim.—The making of a fertilizer, substantially as herein set forth.

No. 49,892.—W. T. KOSINSKI, New York, N. Y.—*Knife Cleaner.*—September 12, 1865.—This invention consists of a box, having a removable lid, which is secured thereon by wedges passing through studs in the top of the box. A platen in the box is pressed upon the scouring material by a screw; in one end of the box is an angular opening forming a slot, in which is doubled and secured a piece of leather, a slit being made in the leather in which the knife is rubbed until clean.

Claim.—First, the leather-lined throat E and inside block *c*, in combination with each other and with the box A, platen G, and screw H, substantially as herein described.

Second, the throat lining F *f*, composed of one piece of leather, folded and secured at its edges, and provided with slits *a a*, substantially as herein specified.

Third, the flexible flap *b*, in combination with the opening *p* at one end of the platen, substantially as and for the purpose set forth.

No. 49,893.—CONRAD P. KROLL, New York, N. Y.—*Barber's Apparatus for Brushing Hair.*—September 12, 1865.—The claim and engraving explain this invention.

Claim.—A revolving brush for brushing and dressing the hair of the head, arranged upon a shaft provided with suitable handles for holding the same by the hands, and connected with the driving power used by means of an elastic belt or band, substantially as herein described, and operated as specified.

No. 49,894.—WILLIAM KRULL, New York, N. Y.—*Stop Valve for Faucet.*—September 12, 1865.—A vertical puppet valve is made solid of soft metal and encased in a shell, the back of which shell carries a hemispherical projection which fits as a ball joint in the end of the follower.

Claim.—The stop valve, composed of a shell *h* of hard metal, having on its back a hemispherical test *g*, fitted to a corresponding cavity *n* in the screw or spindle *g*, and a filling *i* of soft metal, part of which forms the face, substantially as herein specified.

No. 49,895.—ISAAC W. LAMB, Rochester, N. Y.—*Apparatus for Setting Up Work in Knitting Machines.*—September 12, 1865.—The claim and engraving indicate the character of this invention and its object.

Claim.—The setting-up apparatus, made substantially as before described, having fingers B to be placed between the needles of a knitting machine with hooks, or their equivalents, on the ends of such fingers for the purpose of holding on to the yarn between the needles, and thus setting up the work on a knitting machine without the aid of the old work.

No. 49,896.—FREDERICK LAMOUREUX, Binghamton, N. Y.—*Travelling Valise.*—September 12, 1865.—This invention consists in so constructing a travelling valise that it can be used for the purposes of an ordinary travelling bag, or readily converted into a bed or couch upon which a child can be placed while travelling, said valise being suspended by hooks to the back of a car-seat, and straps preventing the same from opening more than the distance required.

Claim.—First, a travelling valise, so constructed that it can be readily converted into a couch or bed, for the purpose shown and described.

Second, in combination with a convertible valise, the hooks, or their equivalents, for the uses and purposes set forth.

Third, in combination with the convertible valise and the suspending hooks, the straps G G, for keeping the lower half in proper position.

Fourth, the canvas bottom, constructed as shown, when used in connection with the convertible valise, for the purpose described.

No. 49,897.—S. F. LEAVITT, North Fairfield, Ohio.—*Horse Hay-fork.*—September 12, 1865.—The head of the fork is formed from two plates which are held together, and the tines fastened to them by grooves in said tines, and washers into which the plates are fitted and held in place by screws and nuts. The handle is made in a similar way, and the invention consists in the combination and arrangement of the several parts identified by the claim.

Claim.—First, the arrangement of the plates *a a*, shank *e*, with the grooves *c*, and grooved washers *c'*, substantially as and for the purpose set forth.

Second, the catch I', spring *n'*, and lever *m*, in combination with the head E and rod C, arranged as and for the purpose set forth.

Third, constructing the arm D of one entire plate or plates, with a space between, as and for the purpose set forth.

No. 49,898.—J. H. LITTLEFIELD, Cambridge, Mass.—*Hammer.*—September 12, 1865.—This invention consists in uniting in one implement a hammer, screwdriver, stove cover lifter, carpet stretcher, and nail and tack drawers.

Claim.—The within described implement, constructed substantially as described, as a new article of manufacture.

No. 49,899.—J. H. LITTLEFIELD, Cambridge, Mass.—*Damper and Ventilator.*—September 12, 1865.—The damper is a cast iron disk perforated round the edges and convex in its centre towards the fire when turned in a horizontal position. Attached to the axis or handle is a wire rod connecting with a slide on the outside of the funnel, which, when the damper is horizontally fixed in the pipe, uncovers an aperture in the funnel, and, when the damper is set in the direction of the draught, closes it.

Claim.—The disk A, constructed and arranged in combination with the wire hook H, the spindle B, and the slide G, as and for the purpose set forth.

No. 49,900.—HAMILTON D. LOCKWOOD, Charlestown, Mass.—*Syringe.*—September 12, 1865.—This invention consists in constructing the flexible induction and eduction pipes of an elastic bulb syringe with a flexible extension integral therewith, to which extension the elastic bulb is attached, and the usual metallic coupling for connecting the pipes with the bulb is thus dispensed with.

Claim.—An elastic bulb syringe, in which the flexible induction and eduction pipes are connected to the elastic bulb by a lateral pipe extending from and integral with said induction and eduction pipes, substantially as set forth.

No. 49,901.—H. J. LOMBAERT, Philadelphia, Penn.—*Transportation of Petroleum.*—September 12, 1865.—This invention consists in the use of metallic tanks for containing the oil, the said tanks being of such a size as to form an appropriate load for an ordinary two-horse

wagon. The car truck for carrying said tanks is made of such a width that the tanks may be arranged transversely in it, and of such a length as to contain a number of tanks arranged side by side in contact with each other, and prevent rolling.

Claim.—The use for transporting petroleum of truck cars and portable metal tanks when the latter are of such weight, dimensions, and capacity that one tank will form an appropriate load for an ordinary two-horse oil wagon, and when the truck cars are so constructed as to hold and steadily retain a given number of said tanks, all as set forth.

No. 49,902.—CHARLES LUSTED, New York, N. Y.—*Machine for Making Bolts.*—September 12, 1865.—In this machine there is, first, a vertically moving cutter, which, in conjunction with a stationary block having a hole through it to admit the rod of metal and an adjustable stop for gauging the length, cuts off the blanks to a uniform length; secondly, a horizontally revolving die table, carrying a series of tubular dies, into which the blanks are placed, and by which they are brought successively under the punch which forms the head; and thirdly, a vertical piston operated by a cam on the main cam shaft which pushes the bolt up out of the die when the latter is brought to its proper position.

Claim.—First, the reciprocating cutter H, in connection with the stationary perforated plate I, when said parts are constructed as herein described, and used in combination with the intermittingly rotating bed or die R, and reciprocating female die K, for the purpose specified.

Second, the rod B, operated through the medium of the yoke C′, tappet D′, and spring E′, and provided with the rod B, all the said parts being constructed as herein described, and arranged in relation with the perforations of the bed or die R, as herein shown, for the purpose of discharging the bolts or rivets from the bed or die R, as set forth.

No. 49,903.—FRANCIS MARTIN, New York, N. Y.—*Deep Well Packing.*—September 12, 1865.—Two sections of tubing are held together by a coupling screwed upon the end of the lower section, and so holding the upper section as to permit it to adjust itself within the coupling. The spring packing, fastened to each section of the tube at a distance from the joint, is so divided longitudinally that when the upper section presses down, the packing springs act against the sides of the well, leaving spaces widening towards the centre between the sections of the packing. An elastic covering envelops this spring packing.

Claim.—First, in packing the tubes of oil and other deep wells, connecting the end of the packing device, or apparatus to separate disconnected sections of the well tube, so as to enclose the joint within said packing device, substantially as above described.

Second, connecting such separate sections of the well tube to each other by means of a coupling, one end of which slides on one of the sections, substantially as described.

Third, the elastic leaves B, arranged as shown about the well tube, so as to enclose the slip joint above described, substantially as above set forth.

Fourth, the elastic covering I, in combination with the spring leaves B, which it encloses, substantially as above described.

No. 49,904.—JAMES S. MCCURDY, Bridgeport, Conn.—*Sewing Machine Shuttle.*—September 12, 1865.—The claim and engraving indicate the features of this invention.

Claim.—First, the bar C, constructed with a projection C′, entering a recess *b′* at one end of the cavity *a* of the shuttle, and with a notch *e*, or its equivalent, in the said projection, for the reception of one of the journals of the bobbin, and otherwise applied, in combination with the shuttle, substantially as and for the purpose herein specified.

Second, the arrangement of the holes *i i*, in the bar C, in a line transverse to the length of the shuttle, substantially as and for the purpose herein specified.

Third, the tension device, consisting of a screw D, a slotted plate *m*, and a spring *t*, combined and applied to operate within a recess *n* in the face of the shuttle, substantially as and for the purpose herein described.

Fourth, a sewing machine shuttle, which is constructed with a pivoted bar C, adapted to form a bearing on one end of the bobbin, in combination with a tension device, consisting of an adjusting screw acting directly upon a slotted spring plate, substantially as described.

No. 49,905.—WM. C. MCGILL, Cincinnati, Ohio.—*Mechanical Movement.*—September 12, 1865.—The object of this invention is to prevent cranks from stopping on the dead centres, and this object is accomplished by connecting the pitman to the crank wrist by means of a link, which link is restrained to a vibratory motion by means of a yoke projecting from the pitman.

Claim.—Combining with an ordinary crank and pitman the link E and yoke F G, arranged and operating as set forth.

No. 49,906.—C. H. MERRICK, Pittsburg, Penn.—*Machine for Making Nails.*—September 12, 1865.—In this machine there are two pairs of cutters, and the nail plate placed in a vertical position descends by virtue of its own weight, and is transferred from one pair of cutters to the other through the instrumentality of the two levers which operate the heading tools, and an arm projecting from the movable box which guides the plate in its descent. The novelty consists in the peculiar construction and arrangement of devices which seize the blank after it has been severed from the plate, and convey it to the heading punches.

Claim.—The combination of devices by which this is effected, substantially as herein described and set forth.

No. 49,907.—ANSELM MILLHAUSER, New York, N. Y.—*Table for the Sick.*—September 12, 1865.—This invention consists in mounting the top of a folding or extensible table by means of a swivel joint and sliding standard; also, in projecting one leg to support the table when the leaf is extended.

Claim.—A table for the sick, constructed with an adjustable swinging top, capable of projecting over a bed, and steadied by means of an extensible foot, substantially in the manner herein specified.

No. 49,908.—EDMUND MORRIS, Burlington, N. J.—*Fruit Box.*—September 12, 1865.—This invention consists in constructing the box by bending the corners and uniting the meeting ends by dovetailing, and securing them by a wire or pin, and securing the bottom to the said sides with spurs or pins near the corners as the sides are bent into form, and thereby dispensing with the use of nails.

Claim.—First, in a fruit box, constructed as described, the dovetail and wire rod or equivalent.

Second, the bottom, provided with its pins for insertion, in combination with the sides, jointed and constructed as described.

No. 49,909.—G. G. MORTON and EDWIN LAMASURE, Philadelphia, Penn.—*Device for Closing and Opening Shutters.*—September 12, 1865.—This invention consists in placing a hollow metallic casing in the wall below the window-sill, in which is placed a horizontal shaft, one end of which passes into the room and has a crank upon it, while the opposite end has a worm wheel which meshes into another worm wheel secured to the lower end of a vertical rod which passes up through the window-sill and forms the pintle of the hinge, having its upper end squared so as to fit a square mortise in the knuckle of the leaf attached to the shutter.

Claim.—First, the casing D, constructed and arranged as and for the purpose set forth.

Second, in combination with the subject-matter of the above, the worm wheels *b* and H, pintle G, and crank shaft I, substantially as set forth.

No. 49,910.—SAMUEL ORTH, Philadelphia, Penn.—*Machine for Cutting and Scoring Pasteboard.*—September 12, 1865.—The object of this invention is to cut and score pasteboard preparatory to its formation into paper boxes, and this object is accomplished by an arrangement of carriers, severing and scoring cutters, and rollers.

Claim.—The adjustable carriers E, with their scoring cutters *e*, and the adjustable carriers E′, with their severing cutters *e′*, in combination with the rollers H, and their cutting edges *m*, the whole being arranged and operating substantially as and for the purpose herein set forth.

No. 49,911.—J. S. PADON, Summerfield, Ill.—*Gang Plough.*—September 12, 1865.—In this invention the axle is slotted so as to admit of a lateral adjustment of the frame upon which the plough-beams are pivoted. The front cross-frame is also slotted to admit a forward adjustment of the frame to which the beams are pivoted. The beams are lifted by levers with a fulcrum upon the seat standard. The plough standards are combined with slotted sector plates for adjustment.

Claim.—First, the side bars C C, seat standards D D, slotted axle A, and slotted brace C′, in combination with the pivoted plough-beams F F, and rocking levers G G, all arranged and operating substantially as described.

Second, in a wheel cultivator, providing for expanding or contracting plough-beams F F, the supporting frame thereof, and the contrivances for elevating or depressing the said beams, substantially as described.

Third, supporting the plough-beams F F in an elevated position by means of levers G G, links *d d*, and a spring-catch lever *g*, which is pivoted to a post projecting from the draught pole, substantially as described.

Fourth, pivoting the plough-beams F to side-beams C C, which are susceptible of being separated or contracted without detaching them from their axle A, substantially as described.

Fifth, the use of slotted standards J J, in combination with the slotted sector plates *j j*, and fastening *k k′*, substantially as described.

Sixth, the clamps K, applied to the standards J, substantially as described.

No. 49,912.—GEO. L. PEABODY, New York, N. Y.—*Umbrella.*—September 12, 1865.—The tip and the handle are tubular, and close by a telescopic arrangement, the umbrella spreading and catching as usual, and the handle being then drawn from the tip to be again caught.

Claim.—In combination with a tubular tip A, the handle B, when the same shall be combined, constructed, and operated, substantially as described, for the purpose specified.

No. 49,913.—B. F. PENNY, Rochester, N. Y.—*Wood-splitting Machine.*—September 12, 1865.—This invention consists in applying to a wood-splitting machine with an upright working splitting axe a stripper which prevents the block of wood when fast to the axe from rising with the motion of the axe and leaves it upon the adjustable splitting table in position for the next stroke of the axe.

Claim.—The relative arrangement of the stripper D, vertically adjustable rest C, axe A′, and stock B, in the manner and for the purposes specified.

No. 49,914.—PETER PERRINE, Little Falls, N. Y.—*Water Elevator.*—September 12, 1865.—The winch is loose upon the shaft, an arm opposite its handle being jointed so as to fall under and disengage a pawl from the ratchet wheel.

Claim.—The combined arrangement of the crank B, the pawl E, and the hooked pawl D, substantially as set forth.

No. 49,915.—EDWARD L. PERRY, New York, N. Y.—*Catamenial Sack.*—September 12, 1865.—The nature of this invention is explained by the claim and engraving.

Claim.—Forming with, or attaching to a catamenial sack, lappels or wings, substantially as and for the purpose herein shown and described.

No. 49,916.—EDWARD L. PERRY, New York, N. Y., and E. D. LAZELL, Brooklyn, N. Y.—*Artificial Cork.*—September 12, 1865.—This invention consists of a composition of gutta percha, ground cork, litharge, and sulphur. The gutta percha is first softened in a "hot mill," and the sulphur and litharge added, and the composition is subjected to a heat of 240° in a vat filled with water. The cork dust is then added and the composition is then formed in moulds and vulcanized.

Claim.—A cork for chemical and apothecaries' use, and for hermetically sealing fruit and preserve jars, and for other purposes, made substantially as herein specified.

No. 49,917.—STUART PERRY, Newport, N. Y.—*Saw-mill.*—September 12, 1865.—The object of this invention is to secure a joint connection in a pitman in order to shorten its length and prevent the vibration consequent upon a long one. And the invention consists in attaching to the framing of a mill or machine a foundation to which is attached in the proper place the joint, consisting of slides and a cross-head working on the slides. The connecting rod, pitman, and cross-head are so arranged as that they all have a separate and independent motion, so that either or both may work when out of direct line. It also consists in a cam washer working against a flange on the straps around the boxes by which the boxes are kept perfectly tight.

Claim.—First, the strap and shoulder thereon, in combination with a cam nut or washer for tightening up the box or bearing of pitman, or connecting rod-heads, substantially as described.

Second, the joint between the pitman or connecting rod and saw arm, composed of the metal head and strap, and the hook and tongue uniting with a common pivot, and made adjustable, substantially as described and represented.

Third, uniting the cross-head to or with the joint between pitman and saw arm, so that either may have motion independent of the other, substantially as described.

No. 49,918.—FRED. PRESSER, Philadelphia, Penn.—*Valve for Steam Radiator.*—September 12, 1865.—The object of this invention is to open and close the valve by the expansion and contraction of water or other liquid, whereby the movement of the valve shall be automatic. Its novelty consists in the application of a tube to the expanding vessel, and the combination of a chamber with the vessel and valve.

Claim.—First, the application of a tube *b* to the expanding vessel B, substantially as described, so that the liquid in said vessel can be replaced while steam is up, and without interrupting the operation of the radiator.

Second, so arranging the channel through which the cold air enters the chamber A that said air, on rushing in, has a tendency to open the valve, instead of to close it, as heretofore.

Third, placing the vessel B, which carries the valve *d*, loosely into the chamber which contains the valve-seat, as described, so that the valve can at all times be reground whenever desired.

No, 49,919.—R. RAFAEL, New York, N. Y.—*Automatic Boiler Feeder.*—September 12, 1865.—The object of this invention is to supply steam generators with water, and by its automatic action so maintain the water at the maximum height uniformly and with unerring certainty. Its novelty consists in a reciprocating plunger, provided with a series of cells, and operating with a supply chamber and feed chamber.

Claim.—The reciprocating plunger A, provided with a series of cells *a*, and operating in combination with a supply chamber B and feed chamber C, substantially as and for the purpose described.

No. 49,920.—L. E. RANSOM, Trenton, Mich.—*Washing Machine.*—September 12, 1865.—This invention is explained by the claim and engraving.

Claim.—The combination of the tangential rubbers on disk A, the bearing F, the perforated disk B, and bearing M, so arranged that the whole can be adapted and applied to and used in common wash-tubs, substantially as herein set forth.

No. 49,921.—CHRISTIAN REICHMANN, Philadelphia, Penn.—*Clasp for Lamp Shades.*—September 12, 1865.—This invention consists of an elastic grooved band holding the top of the paper shade by its own expansion, in combination with a frame.

Claim.—The elastic grooved or flanged band A, holding the top of the paper shade by its own expansion, and employed in combination with a frame *c c*, constructed and applied as and for the purposes set forth.

No. 49,922.—ISAAC RELF, Mina, N. Y.—*Expelling Oil from the Veins of Wells.*—September 12, 1865.—The rod of a solid piston, fitted into the pump cylinder, is struck forcibly by any suitable means, and the effect desired is sure to be produced thereby.

Claim —Forcing the liquid in an oil or other well into the veins and crevices thereof by means of blows and concussions, as and for the purposes described.

No. 49,923.—RUDOLPH REX, Charles City, Iowa.—*Bird Trap.*—September 12, 1865.—A net or snare is extended over a rigid frame, which is supported in a horizontal position by hinged props which form knee or toggle-joints, and yield or bend on being pulled by cords so as to cause the frame and its netting to fall over the feeding birds. The frame is guided in its fall by four uprights which pass through mortises in the frame.

Claim.—First, the use of netting frame, which is applied to pivoted guide posts C C C C, and provided with props G G, or their equivalents, substantially as described.

Second, the combination of the posts A C and loaded cords C with the netting frame D D E E, substantially as described.

No. 49,924.—EDWIN ROBERTS, Morristown, N. J., assignor to himself and HENRY COY, of Camden, N. J.—*Coal-oil Lamp.*—September 12, 1865.—This invention consists of a jacket or short cylindrical tube of thin sheet-metal to be applied to the wick tube of a coal-oil hand lamp, without a chimney, for the purpose of producing a sufficient light without smoke, and protecting the light from extinguishment when the lamp is suddenly lifted or rapidly moved about.

Claim.—The jacket C, constructed as described and set fort, hin combination with the cylindrical wick tube B of a coal-oil hand lamp, the said jacket and tube being arranged to operate together as described for the purposes specified.

No. 49,925.—LOUIS SCHREIBER, New York, N. Y.—*Cornet.*—September 12, 1865.—The object of this invention is to improve the musical instrument known as cornet-à-piston, and this object is accomplished by changing the positions of the mouth-piece tube and tuning pump; also, by changes in the action or means of operating the rotating valves; also, by relieving the bell from the grasp of the performer's hand.

Claim.—First, in cornets and similar musical instruments, placing the mouth-piece tube vertically above the valve tube, substantially as above described.

Second, constructing the key or keys *f* of a straight piece, and placing them in a position parallel with the axis or axes of the rotary valve or valves operated by them, substantially as above described.

Third, placing the tuning pump D in a vertical position at the termination of the mouth-piece tube, substantially as described.

Fourth, the water valve F, in the end of the tuning pump, substantially as and for the purpose above described.

Fifth, the combination of the finger ring C with the tuning pump for the purpose of providing means for holding the instrument, substantially as above described.

No. 49,926.—FREDERICK SEIDLE, Mechanicsburg, Penn.—*Horse Rake.*—September 12, 1865; antedated September 6, 1865.—This invention relates to the manner of attaching the teeth to the head, and will be understood from the claim and engraving.

Claim.—The arrangement of the staples A, and coiled springs B, embracing the staples, and their lower ends resting upon the teeth, while their upper ends pass through the upper ends of the staples in connection with the wire teeth E″, attached separately by means of the brackets D″ to the bar C″ in the manner and for the purposes specified.

No. 49,927.—SAMUEL SHEPHERD and AMMI M. GEORGE, Nashua, N. H.—*Paper Collar Machine.*—September 12, 1865.—The collar is cut, punched, and embossed between two cylinders.

Claim.—A machine for cutting out, punching the button-holes in, and embossing an imitation of stitching on paper collars, composed of a pair of rollers C C′, furnished with steel bands *d d′*, cutting rings *e e′*, embossing rings *i i′*, packing rings *t n n′*, punches *s s′*, and dies *t t*, the whole constructed and operating substantially as herein specified.

No. 49,928.—JOHN F. SHILLABER, Portsmouth, N. H.—*Grindstone.*—September 12, 1865.—This invention consists in arranging the vessel containing the water, and through which the grindstone passes when revolved, in such a manner that it can be readily adjusted to any desired height with regard to the stone or set entirely away therefrom.

Claim.—So arranging the lower water-box or receptacle of a grindstone that it can be raised toward, or lowered from, the stone, substantially as herein described and for the purposes specified.

No. 49,929.—JOHN O. SHRINER, Newcastle, Ind.—*Coffee and Tea Drawer.*—September 12, 1865.—This invention consists of a sheet-metal box of any suitable shape with a tightly fitting lid, the box and lid being both finely perforated; it has a handle by which it can be carried and kept in place in the coffee-pot attached to one side.

Claim.—A perforated or wire drawer, made of any proper shape, having a closely-fitting perforated lid, and a long handle with a ring on the end, for the purposes herein set forth.

No. 49,930.—RALPH SMITH, Brooklyn, N. Y.—*Rigged Oar or Boat Fin.*—September 12, 1865.—In this invention the oars are hinged to the side of the boat and the power applied to the oars by a lever attached to the gunwale at or near the surface of the water.

Claim.—The arrangement and combination of the blades B and rods C, attached and operated as described and represented.

No. 49,931.—G. R. SPANNAGEL, St. Louis, Mo.—*Composition for Preventing Incrustation in Boilers.*—September 12, 1865.—This invention consists of a composition of proto-chloride of iron, muriate of strontia, muriate of baryta, acetate of protoxide of iron, terra japonica, muriate of ammonia, and brown sugar.

Claim.—The composition of matters as above described, for the purpose set forth.

No. 49,932.—WILLIAM SPARKS, New York, N. Y.—*Coal Scuttle.*—September 12, 1865.—A frame work of wood has on its top a square platform on which rests a hopper in which the coal is placed directly as received from the dock; in one side of this hopper there is a door or outlet made to slide up and down, by which the descent of the coal on the screen is regulated, said screen being made like a "chute," and the angle at which it is fixed can be regulated by means of a hook and staples.

Claim.—The combination of the screw *d*, and gate *g*, at the upper end of said screen, with the framework *a*, and the elevated platform *b*, in the manner and for the purpose set forth.

No. 49,933.—DANIEL STANLEY and GEORGE JOHNSON, Cincinnati, Ohio.—*Boring Machine.*—September 12, 1865.—This invention consists in attaching to a boring machine a rack pivoted at the bottom, so that by working a cam lever in a slot in the rack it is thrown into gear with a wheel on the driving shaft, and by this means raised out of the hole the auger has cut, and by reversing the motion of the lever it is thrown out of gear.

Claim.—The arrangement of the eccentric N O, pivoted rack K, compound spur and bevel wheel J, slide E, wheel G, and auger shaft F, all constructed and operating substantially as specified.

No. 49,934.—B. TERRY, Auburndale, Mass.—*Apparatus for Carburetting Air.*—September 12, 1865.—This invention consists of a vessel, divided into two compartments by a partition. The smaller compartment communicates with the open air by means of an aperture and contains a series of bellows, one head of each bellows being attached to the inside of said compartment, and the other head attached to a rod, which is operated by an eccentric attached to the shaft. Each bellows communicates with the larger compartment by means of a pipe. The shaft extends a short distance into the larger compartment, and is provided with gearing to operate the pump, and cause the wire-gauze diaphragms to revolve. The hydrocarbon liquid contained in the larger compartment is forced up in a pipe, by means of a pump, and is discharged against a plate, and then falls upon the gauze diaphragms. The carburetted air is discharged through a proper pipe.

Claim.—The air-pumping apparatus, made substantially in manner and so as to operate as described, viz., of one or more bellows G, with its valve openings *i n*, valve *h m*, levers K, rod F, and eccentric E, the whole being applied to the shaft D and the case A, in manner and so as to operate substantially as described.

Also, the combination of each bellows head *e* with the air-receiving chamber, by means of a flexible eduction pipe *p*, so applied to the two as to allow of the necessary movements of the bellows heads *e*, as described.

Also, the combination and arrangement of the chamber H with the air-forcing bellows, the flexible eduction pipe or pipes thereof, and the vaporizing chamber C.

Also, the flexible or expansive dome I, made substantially as and to operate as described, with the vaporizing chamber C, and the apparatus for forcing air into the latter.

Also, the combination of the flexible or expansive dome I, and its case *v*, with the vaporizing chamber C, and an apparatus for forcing air into such chamber for the purpose of being carburetted, as described.

Also, the combination of the force pump K, its jet tube *y*, spray disk *t*, air-distributing conduit *a*2, and series of disks *f* 2, *g* 2, *h* 2, the same being used in the vaporizing chamber C, and with the apparatus for forcing air therein as specified.

Also, the arrangement of the tube *b'*, and its stop-cock *c'*, with the outlet tube *a*, the air-chamber H, and the vaporizing chamber C, provided with an apparatus for forcing air

into it, as described, the tube *b* in such arrangement being wholly within the vaporizing chamber, as set forth.

Also, the improved flowage regulator, constructed as described, viz., with the flexible tube K, combined with the disk *c'* and the vessel I, the said vessel I having the partition *g* going across it, and the valve *h*, suspended from the disk *c*, the whole being arranged and so as to operate substantially as specified.

No. 49,935.—NATHANIEL TUFTS, Jr., Boston, Mass.—*Packing the Shafts of Dry Gas Meters.*—September 12, 1865.—This invention consists in providing the vertical shaft of a dry gas meter with an oil cup, which revolves with the shaft, and surrounds the packing box.

Claim.—In dry gas meters, and in combination with the vertical shafts therein, and with the packing boxes of such shafts, the oil cup *s*, when secured to such shafts, and made to rotate therewith.

No. 49,936.—JAMES WALBER, New York, N. Y.—*Artificial Leg.*—September 12, 1865.—The nature of this invention is explained by the claim and engraving.

Claim.—The construction of the joints of artificial legs with metal-faced supporting bearings on the circular surfaces of the central tenon and of the side cheeks of the mortise of the joint, substantially as herein described, whereby the pins of the joints are relieved of the weight of the body, and cylindrical bearings are obtained both above and below the axles of the joint.

No. 49,937.—DANIEL T. WALKER, Brooklyn, N. Y.—*Machinery for Punching Metal.*—September 12, 1865.—This invention consists of a stock or shank, fitting into the sliding head of a punching machine. The lower projecting end of the stock is tapered to the size of the head of the largest punch to be used in the machine. Over the tapered end fits a collar, the lower end of which projects below the end of the shank sufficiently far to form a dovetailed socket, to receive the corresponding head of the punch, the top of which abuts against the bottom of the shank. This socket can accommodate punches of different sizes by surrounding the head of the small ones with a tapering ring or bush, the outside of which fits and fills the interior of the socket. The collar is cylindrical on the outside, and is secured to the shank by means of a key or pin passing transversely through the two, and which, by removing, allows the collar to be removed, and the punches to be changed when required.

Claim.—First, the improved punch holder, consisting of the driver *a*, the cap *a'*, and a fastening, substantially as described.

Second, the driver, conical cap fastening, and punch, in combination, substantially as described.

Third, the conical bush, in combination with the cap and driver, for the purpose of holding various sized punches in the same punch holder, substantially as described.

No. 49,938.—LONDUS B. WALKER, Chicago, Ill.—*Cultivator.*—September 12, 1865.—In this machine the plough beams are fastened to two front horizontal beams, which move freely laterally at their central points, being pivoted to the outer edges of the frame proper. Beams outside the wheels are lifted by a lever and rock shaft passing through the bottom axle. Each half or gang of beams is moved laterally by a treadle or foot lever, constructed of three arms, and so hung that the foot may be applied to either upper arm.

Claim.—First, the combination and arrangement of the vibrating bars C C with the bars D D, which draw the cultivating teeth.

Second, in combination with the vibrating bars *c c*, the levers W W and links Z Z, arranged to operate them, substantially as described for the purpose set forth.

Third, making the foot levers W W with three arms, and hanging them so that the driver, by applying his foot to either of the upper arms, can work the levers and vibrate the bars C C in either direction.

Fourth, making the axle or pivots of the wheels hollow, in combination with the rock shaft and levers working through them, to raise the cultivating teeth.

No. 49,939.—HIRAM B. WARE, Burlington, Iowa.—*Mode of Manufacturing Halters.*—September 12, 1865.—This invention consists of a metallic slide instead of rings on the nose band and other pieces.

Claim.—A halter, made with clasps and rivets, substantially as herein shown and described.

No. 49,940.—ELIJAH WARNE, Broadway, N. J.—*Burglar Alarm and Lock.*—September 12, 1865.—This invention consists in the arrangement of a number of parts by which an alarm is given on the least attempt to open the door, and will also serve as a lock to prevent the door being opened.

Claim.—A burglar alarm and lock, consisting of the parts herein described, or their equivalents, combined and operating substantially in the manner above described.

No. 49,941.—GEORGE I. WASHBURN, Worcester, Mass.—*Feed-water Apparatus.*—September 12, 1865.—This invention consists in the combination and arrangment of parts by

which, through the medium of steam which is condensed in a suitable vessel, a vacuum is formed into which the water rushes and is thus elevated to a sufficient height to be forced into the boiler by its own gravity.

Claim.—First, the piston valve reciprocating in the chamber, as described, in combination with the openings K and their alternate induction and eduction connections, substantially as described.

Second, the rotary steam valve, with its steam ports R R′, and its exhaust ports S S′, communicating alternately by the pipes Q Q′ with the ends of the piston chamber G.

Third, the combination of the shouldered plates P P′ with the wheel N, and the pins on the faces of the latter, by means of which devices the reciprocating motion of the piston valve produces the rotary motion of the valve M.

Fourth, the arrangement of the pipes and passages for connecting the water chamber A A′ with the water supply from below and the steam from above, without allowing either to pass through the chamber, so as to obtain a raising and falling column of water in said chambers, the upper or surface portion of said body of water always remaining in the chamber exposed to the influence of the incoming steam.

Fifth, the arrangement of the chambers A C and A′ C′, communicating respectively by the pipes K and K′, and the orifices in the chamber G, by which an equilibrium in the height of water in the connected chambers is periodically established by the weight of the column of water driving the steam from the lower chambers and condensing it during its passage by the described means of communication toward the chambers C C′.

Sixth, the arrangements of the pipes U U, which connect the chambers C′ A and C A′ respectively, carry a body of water from a chamber under pressure and discharging it in spray in a steam chamber disconnected with the steam induction, as and for the purposes described.

Seventh, conducting the condenser pipe K through a body of water exterior to that in the chambers, so as to avoid impairing the vacuum therein, when this is used in combination with the chambers A A′ C C′, substantially as described and represented.

Eighth, the arrangement of the valves and ports by which air, which may be in the chambers, is expelled at each stroke and driven towards the boiler, substantially as described.

Ninth, in connecting with pumps which draw their water by the vacuum caused by the condensation of steam and expel it by the direct action of steam, the method described of regulating the supply of steam to the apparatus by placing the steam pipe with its open end downward in the steam boiler at the water line of the boiler, or in a chamber connected to the boiler, substantially as described and represented.

No. 49,942.—Levi H. West, Cambridge, Mass.—*Railway Carriage.*—September 12, 1865.—The object of this invention is to effect improvements in horse railway cars, which is accomplished through an arrangement by which the springs of the cars are disposed above the platform frame, in the space beneath the side-seat, where they are protected from snow, ice, dirt, or water, raised by and thrown from the wheels.

Claim.—The arrangement of levers D D, and the spring or springs of each, with the platform frame A, and the truck frame B, the same being substantially as and so as to operate as specified.

No. 49,943.—J. D. Whelpley, Boston, Mass.—*Fertilizer.*—September 12, 1865.—This invention consists of a composition of feldspathic granite, bone dust, shell lime, and sulphide or sulphate of iron. This mixture is exposed to a moderate heat on the floor of a reverberatory furnace, being moistened from time to time, or it may be exposed to the action of the sun and air in a heap with other manure.

Claim.—As a new article of manufacture, a fertilizer, consisting of finely pulverized feldspar, feldspathic granite, and other potash-bearing rock in combination with gypsum and bone or phosphate of lime, substantially as described.

No. 49,944.—O. A. White and I. W. Bostwick, Norwalk, Ohio.—*Horse-power for Sawing Machine.*—September 12, 1865.—This invention consists in combining a shaft with a horse-power, and also arranging the pitman of the latter in such a manner that both a reciprocating and a circular saw may be driven separately, as desired.

Claim—A horse-power, arranged and constructed substantially as and for the purposes herein set forth.

No. 49,945.—Geo. B. Windship, Boston, Mass.—*Lifting Apparatus.*—September 12, 1865.—This invention consists in the combination of an adjustable lifting yoke of peculiar construction with a graduated weighted lever and various other devices, whereby the apparatus is readily adapted to the size and strength of the person using it.

Claim.—First, the combination and arrangement of the weighted lever O, yoke F, and their connecting chains U U, or their equivalents, substantially as set forth and for the purposes described.

Second, the combination and arrangement of the sliding car S, rope Y, and pulleys *d z*, or their equivalents, substantially as set forth for the purpose described.

Third, the dogs *c c*, attached to the car S, and operating in combination with the rope Y, and the holes in the top of the lever O, substantially as and for the purpose described.

Fourth, the nut or swivel R and rod Q, in combination with the lever O, chains V, and yoke T, or their equivalents, substantially as and for the purpose specified.

Fifth, the employment of the rubber spring between the top of the lever O and the rod Q, substantially as and for the purpose described.

Sixth, the employment of the large rings or hooks U U, in combination with the yoke T, chains V V and lever O, substantially as and for the purpose described.

Seventh, the bars or hand rests J J, in combination with the hinged and slotted upright studs K K and bar H, whereby said rests are rendered vertically and laterally adjustable, substantially as and for the purpose described.

Eighth, the weight X, cord *w*, either with or without the spring *m*, and pulley N, when arranged and operating in combination with the lever O and lifting apparatus, substantially as set forth and for the purpose described.

No. 49,946.—JOHN ADAMS, assignor to himself, A. B. WALKER, A. J. HOBBS and WILLIAM RUSSELL, Kokomo, Ind.—*Lining for Boots and Shoes.*—September 12, 1865.—This invention consists in constructing the lining of a boot or shoe at the point where the front or side slit is formed in such manner that it closes the slit against water and dust, and also allows the ankle portion of the shoe or boot to be expanded in size.

Claim.—Constructing the lining of a boot or shoe at the point where the front or side slit is formed in such a manner that it closes the slit against the entrance of water and dust, and also allows the ankle portion of the shoe or boot to be expanded in size, when the lining proper is constructed and applied as herein described.

No. 49,947.—CHARLES F. BENNETT, assignor to MARIA BENNETT, Philadelphia, Penn.—*Cloth Drying Machine.*—September 12, 1865.—This invention consists in two or more revolving rims having a groove on the inner side in which cogs are formed and are operated through the medium of gearing and crank shafts. In connection with the above there is a system of heating pipes having a fan placed underneath the same, whereby the heat is forced against the surface of said pipes within a wire cylinder, and from thence escapes out through the meshes and impinges against the cloth placed upon said cylinder. And it also consists in a series of wheels having thereon adjustable blocks, and placed upon a shaft at the end of the machine, together with disks formed upon two pulleys, one over the other, and placed upon an adjacent shaft.

Claim.—First, the combination of two or more revolving rims G G′ with the stationary plates H H, and the system of heating pipes herein described, or the equivalents to the same, secured to the frame by the machine, and arranged in respect to said rims, substantially as and for the purpose herein set forth.

Second, constructing each rim with a recess in the inside for the reception of the wheel F, and the edge of the stationary plate H.

Third, the central rim G, and outer rim G G′, the latter being guided by the rods *h*, secured to the central rim, and being rendered adjustable to and from the latter by the screw rods *d*, or their equivalents, for the purpose specified.

Fourth, the fan K, and system of heating pipes described, or their equivalents, the whole being secured to the frame of the machine and surrounded by the revolving rims, substantially as set forth.

Fifth, the combination of the fan casing J, casing L, of wire-gauze or perforated plates, system of heating pipes, or their equivalents, and the shield I.

Sixth, the combination of the rims G and G, their internal wheels F F, and pinions E and E, on the grooved driving shaft B.

Seventh, the combination of the central rim G with the retaining wheel *f* on the driving shaft B.

Eighth, the tentering wheels P, with their sliding blocks *n*, in combination with the disks *q q* on the shafts N N′, and the devices therein described, or the equivalents to the same, whereby the position of the blocks before their hooks seize the fabric is determined by the position of the edge of the said fabric, for the purpose specified.

No. 49,948.—JAMES CHRISTY, Philadelphia, Penn., assignor to himself, RUDOLPH DIRKS and E. H. BITZMAN.—*Brake Shoe.*—September 12, 1865.—This invention consists of a holder with two legs on the face of the same and a sole with a lug on the back, the two being constructed and adapted to each other so that they may be secured firmly together by a key curved in such a manner that it cannot be thrown from its position by the jolting of the truck.

Claim.—First, the holder A, with its lugs *e e′*, and the sole E, with its lug *c*, constructed and secured together by the key F passing through the lugs, substantially as described.

Second, the key F for securing the sole E to the holder, the said key being curved, as and for the purpose specified.

No. 49,949.—SAMUEL DRIVER, assignor to himself and EDWARD LONGAN, Philadelphia, Penn.—*Automatic Boiler Feeder.*—September 12, 1865.—The object of this invention is to feed steam generators with water, and by its automatic action to keep the water at or nearly to a uniform required height. Its novelty consists in the combination of a feed pipe of the boiler with a box and chest, and the combination and arrangement of the valves with the chest, cams, and valves.

Claim.—First, combining the feed pipe with the boiler by means of the box A and chests B H, arranged and operating substantially as described and for the purpose set forth.

Second, the combination and arrangement of the valves D D′ with the chest B, for opening and closing the communication between the box A and the boiler, substantially as described.

Third, combining and arranging the cams I I′ with the valves D D′ and F, substantially as and for the purposes set forth.

No. 49,950.—SAMUEL ESTES, Newburyport, Mass., assignor to himself and C. O. MORSE, and said ESTES assigns his right to HIRAM LITTLEFIELD.—*Let-off Motion for Looms.*—September 12, 1865.—The object of this invention is to govern the let-off motion by the force with which the batten strikes the finished fabric in beating up. The reed is supported upon stiff springs capable of yielding against the impact of the lay, and a projection thereon actuates a lever to an extent determined by and varying with the force of this blow. The other end of the said lever pulls backward to a corresponding extent another lever and a pawl, which thus actuates a ratchet wheel and effects the let-off.

Claim.—Making that part of the batten of a loom which comes in contact with the finished fabric yielding, and combining it by suitable levers C D, pawl E, and ratchet wheel F, or their equivalents, with the yarn beam G, substantially as and for the purposes set forth.

No. 49,951.—E. W. GOODALE, Clinton, Mass., assignor to B. S. BINNEY, Somerville, Mass.—*Machine for Making Paper Bags.*—September 12, 1865.—This invention consists in giving to the side cutters an irregular curve at or near their inner ends, so that the papers cut by their action and the corners produced by folding said papers are of such form that the paste comes upon the paper where it is single; also of an adjustable former on which bags of different sizes may be made; also of a pasting apparatus regulated in such a manner that the quantity of paste applied is regulated according to the size of the bag.

Claim.—First, making the side cutters B with curved ends, substantially as and for the purpose set forth.

Second, making the former C in two or more parts, substantially as and for the purpose described.

Third, the paster H, in combination with the adjustable strap *v*, knife G, and paste roll I, constructed and operating substantially as and for the purpose set forth.

Fourth, the arrangement and combination of the side cutters B, former C, measuring rollers D, cutter E, oscillating arm F, paste roll I, paster H, and knife G, all constructed and operating in the manner and for the purpose substantially as herein shown and described.

No. 49,952.—W. E. LOCKWOOD and HENRY HOWSON, assignors to W. E. LOCKWOOD, Philadelphia, Penn.—*Apparatus for Shaping Paper Collars.*—September 12, 1865.—The collar is formed by passing between the peripheries of two rollers properly matched and arranged one above the other, while a third roller of size and form corresponding to the lower of the two is placed laterally and nearly centrally in relation to them both, but impinges only against the upper roller.

Claim.—The three rollers J K and M, the said rollers being of a form substantially as illustrated, and being arranged and operating in the manner described.

No. 49,953.—SAMUEL ROEBUCK, assignor to ROEBUCK BROTHERS & MARKLAND, New York, N. Y.—*Lantern.*—September 12, 1865.—This invention consists in slitting the sheet-metal body of the lantern and bending the metal outward at each side to hold the glass plates and to obtain reflecting surfaces behind the glass plates.

Claim.—A lantern constructed with openings to receive the glass plates by slitting the sheet-metal body, as shown, and bending the metal outward at each side to obtain reflecting surfaces behind the glass plates between them and the main portion of the body, substantially as set forth.

No. 49,954.—J. E. SPENCER and EDWIN WANT, assignors to J. E. SPENCER, New Haven, Conn.—*Manufacture of Spectacle Frames.*—September 12, 1865.—This invention consists in swaging up the pivot solidly and in one piece with the temple, the two sections of the bow being held together by a screw in the usual manner.

Claim.—Forming the pivot solidly upon the temple and otherwise constructing the hinge, and uniting the bore with the temple, substantially as described.

No. 49,955.—JAMES STRATTON, assignor to the PETROLEUM VAPOR STOVE AND GAS-LIGHT COMPANY, Philadelphia, Penn.—*Vapor Burner.*—September 12, 1865.—This invention consists mainly in conducting the fluid from which the gas is to be made through an annular tube above the flame, placing above the flame on said tube a detachable deflecting plate, which may be removed and a vessel containing anything to be heated placed in its position.

Claim.—First, conducting the fluid from which the gas is to be generated through an annular or nearly annular tube, which communicates with and is arranged above a nipple, substantially as and for the purpose described above.

Second, the detachable deflecting plate H, adapted to the annular portion *a* of the tube A, substantially as and for the purpose described.

Third, the nipple E, with its opening *c* and its valve seat, in combination with the valve rod F and its needle point *e*, the whole being constructed and arranged substantially as and for the purpose set forth.

Fourth, the cap I, with its pointed rod *i*, adapted to the nipple E, substantially as and for the purpose specified.

No. 49,956.—J. E. TUCKER, assignor to himself and C. H. MOORE, Boston, Mass.—*Smoothing Stone or Implement.*—September 12, 1865.—This invention consists in the use of steatite in the form of a sad-iron, in combination with a handle fitted in a socket of metal for smoothing clothes.

Claim.—The combination of the stone or steatite body A, the metallic socket B, and handle C, arranged and applied together substantially as specified.

No. 49,957.—GEORGE F. WRIGHT, assignor to himself and H. H. WATERS, Clinton, Mass.—*Apparatus for Clinching Clasps on Hoop Skirts.*—September 12, 1865.—The clasps, arranging themselves on their backs, pass down the hopper under bars that do not touch the bottom, and are thus delivered, the square openings having pendent pieces for the upturned clasp legs to straddle into the grooved channel, which they descend to be presented to the die, legs downward; a toothed wheel, held to duty near the die by a spring, serving to aid the feed movement, as this end of the feed apparatus passes in and out at each ascent and descent of the treadle which impels all the parts. The die has spring lips at its right and left, which receive and retain the clasp until struck up on the grooved anvil beneath.

Claim.—First, a vibrating hopper, having apertures in the side or sides thereof, of the form substantially as herein described, in combination with one or more suitable guiding bars and a spiral or any other suitably shaped delivery tube or tubes, arranged together and operating substantially as and for the purposes specified.

Second, the bow or other suitable springs *g' g'*, attached to the clinching tool for grasping the clasps, arranged and operating as described.

Third, the toothed feeding wheel *l'* for feeding the clasps as they are delivered by the tube to the clinching tool, arranged and operating as described.

Fourth, the sliding bar *s*, with hopper and feeding tube attached, arranged and operating substantially as described.

No. 49,958.—AUGUST SAMUEL LEOPOLD LEONHARDT, Berlin, Prussia.—*Method of Preparing Aniline Colors for Dyeing and Printing.*—September 12, 1865.—This invention consists in dissolving the blue and violet colors obtained from aniline in strong alcohol, and precipitating them in a fine state of subdivision by means of cold water or a solution of any neutral salt in cold water, whereby said colors are rendered more easily soluble in slightly acidulated hot water.

Claim.—The rendering of the blue and violet colors of commerce, obtained from magenta, and which are insoluble in water, in a fine state of subdivision, so that, without further use of alcohol or other solvent, they are in fit condition for use in dyeing and printing, by first dissolving them in alcohol or aniline, or sulphuric acid, and subsequently allowing the solutions so obtained under brisk and constant agitation to drop into cold water alone, or into cold water containing in solution neutral salts, caustic, or carbonated alkali; or, as in the second described process, when aniline is used, into cold water containing hydrochloric acid; or, as in the last process, when sulphuric acid is used, into cold water containing an equivalent amount of alkali to the sulphuric acid employed, and subsequently recovering the solvent used, as described in the first two processes.

No. 49,959.—E. S. ALLIN, Springfield, Mass.—*Breech-loading Fire-arm.*—September 19, 1865.—In this invention a hinged breech block, lifting upward and forward, causes a slide to move back a certain distance and then liberate a spring tooth on the retractor, allowing a re-engagement on the closing of the breech. The thumb-piece of the latch which locks the breech-block is covered by the nose of the hammer on its descent, thereby securing the safe closure of the breech before the charge can be fired.

Claim.—First, the combination of a solid recoil block A with a pinion U and rack *m*, the first tooth *s* of which is hung on a spring, in the manner and for the purpose described.

Second, bevelling the front end of the recoil block at *c'*, and forming a corresponding bevel *c* on the barrel, as and for the purpose described.

Third, the projection X, in combination with the lever *f* and hammer V, substantially in the manner and for the purpose described.

No. 49,960.—JAMES ASH, Sterling, Ill.—*Cut-off for Water Conductors.*—September 19, 1865.—In this invention the main descending spout terminates, within a box or case, in a loose section of spout, which is supported by pins in an arched slot on each side of the case, so that the loose section may lead into either one of two ways at the bottom, or may be suspended partially over each.

Claim.—The adjustable tube B, applied in combination with the conductor A and discharge pipes D D', substantially in the manner and for the purpose set forth.

No. 49,961.—CHARLES BARNES, Cincinnati, Ohio.—*Steam Gauge.*—September 19, 1865.—The object of this invention is to indicate the pressure of steam in a steam generator with unerring certainty. Its novelty consists in the arrangement of two or more springs of unequal tension.

Claim.—The provision in a steam gauge of two or more springs G H, of unequal tension, arranged and operating in the manner and for the purpose set forth.

No. 49,962.—L. M. BATTY, Canton, Ohio.—*Mowing Machine.*—September 19, 1865.—This invention consists in a combination of devices designated in the claim, and does not admit of a brief description.

Claim.—First, the sliding shifter L, in combination with the hand lever *d* and the intermitting lever *d'*, the pinions *k* and *k'*, the double clutch *l*, and the shaft *z*, as herein described, for the purposes set forth.

Second, the swivel-jointed stay rod E, the upright guide rod N, with the set bolt and nut *n* and the shoe H, in combination with the swivel joint *v*, when operating as and for the purposes set forth.

Third, the cam lever F, with the standard and flexible joint *t*, as herein set forth.

Fourth, the arrangement of the outer shoe J, block T, and set screw *z''*, for raising and lowering the shoe independently of the cutter guard, substantially as set forth.

Fifth, the coiled supporting spring *e*, with the set screw *f*, in combination with the frame B, as herein described, for the purpose set forth.

No. 49,963.—L. M. BATTY, Canton, Ohio.—*Harvesting Machine.*—September 19, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, the seat irons E, with the set bolts F, when used as described, for the purposes set forth.

Second, the arrangement of the bevel cogs G in combination with the driving wheels H and H', shafts H and J, the pinion K and clutch K', the double spur wheel L, pinion M or M', and the crank shaft N, all connected and operated substantially as set forth.

Third, the hand lever *o*, with the spring, together with the shifting rod A, the coiled springs R and R', in combination with the pinion K and clutch K', when operating conjointly as described.

Fourth, the arrangement of drag bar T with the filling *r*, the hook V, the pin W, the hanging irons S and S', the swivel U, the runner A, the standard *g*, with the slots *g'* and *p'*, and flange *j'*, the set screw W', and slot *d'*, the ring Z, the bolt Z', the shoe G', the bed roll *a*, the bolts *b*, in combination with the finger beam *c*, and the lever *d*, as set forth, when operating as described.

Fifth, supporting the reel post *e* and carriage *n* by the standard K, fastened by a wedge *v*, as described.

Sixth, the segment lever *p'*, the rack *y''*, and the plate *r*, in combination with the reel carriage *n* and reel post *e'*, in the manner and for the purpose set forth.

Seventh, the arrangement of the folding arms of the reel, in connection with the tubular shaft, substantially as described.

Eighth, the springs *y* in combination with the folding arms S'' and arm holders *u*, in the manner and for the purpose set forth.

No. 49,964.—L. M. BATTY, Canton, Ohio.—*Rake Attachment to Harvesters.*—September 19, 1865.—This invention consists in the method of constructing the vibrating carriage or frame which supports and carries the sweep rake; also in the arrangement in relation thereto of the rake arm and the guide ways which control the rising and falling movements of the rake.

Claim.—First, the wrought-iron carriage E, with its pin *h* and box *i*, as and for the purpose set forth.

Second, the arrangement of the crooked arm D D in combination with the peculiar guides L and I, for operating the rake, substantially as set forth.

No. 49,965.—OTIS T. BEDELL, New York, N. Y.—*Machine for Bevelling Picture Frames.*—September 19, 1865.—This machine is intended to bevel off the edges of pasteboard frames, such as are inserted in photographic album leaves. These frames are equal in thickness to two photographic cards of that class generally made for the purpose of inserting in photographic albums, and the opening or openings in them are cut out large enough to take in such cards. In order to be able to remove the cards it is necessary to have one of the ends, generally the lower end, bevelled off; for, if the edge is left square and the card or cards inserted into the frame, they can only be removed with great difficulty.

Claim.—First, the use of mechanism, substantially as herein described, for the purpose or bevelling the edges of photographic picture frames by machinery, in contradistinction to performing the labor by hand.

Second, the combination of one or more knives F secured to a carriage E, with the self-acting clamp H, constructed and operating substantially as and for the purpose set forth.

Third, the vertical knives or cutters J in combination with the inclined knife or knives F and clamp H, constructed and operating substantially as and for the purpose specified.

No. 49,966.—FREDERICK W. BISHOP, West Haven, Conn.—*Shipping and Unshipping Hind Boards to Freight Wagons.*—September 19, 1865; antedated August 31, 1865.—This invention consists in a specific combination and arrangement of parts, which will be understood by reference to the claim and engraving.

Claim.—The combination of the spring bolts *c* and *d* with the strap or loop bands C and D, when the whole is constructed, arranged, and fitted to produce the result substantially as herein described.

No. 49,967.—JAMES BOLTON and JEROME B. SECOR, Chicago, Ill.—*Feeding Device for Sewing Machines.*—September 19, 1865.—In this invention the feeding dog works through an opening in a disk, which lies flush with the bed-plate, and the disk may be, by means of a handle, turned a quarter circle, the feed thus taking place in any line within this range. By the turning of another lever the feed may be instantaneously reversed, as well as graduated as to its extent.

Claim.—The combination of the turning feeding foot or dog and the turning feed guide, for the purpose of changing the direction of the feed of the material to be sewn from one line to another at right angles therewith, substantially as described.

Also, in combination with a turning feeding foot or dog, the studs or arms *b b'*, arranged at right angles to each other, so that whether the feeding be longitudinally or laterally of the machine, the said foot shall be in working condition with the rod G, that gives it part of its feeding movement, substantially as described.

Also, in combination with a turning feeding foot or dog, the pivoted, slotted, and oscillating carrier M, for giving said foot or dog a part of its feed movement in any of its positions, substantially as described.

Also, in combination with a turning feed and the oscillating carrier, the stud or post *u*, for guiding and directing the feeding foot, and allowing it to rise and fall thereon, substantially as described.

Also, the pivoted and adjustable link L interposed between the rods G K, for the purpose of regulating the extent as well as the time of the motion of the carrier M, substantially as described.

No. 49,968.—J. W. BRADY, Baltimore, Md.—*Corder for Sewing Machines.*—September 19, 1865.—The object of this invention is to facilitate the introduction of a cord into the second fold of the cloth, and also to allow the corder to be easily adjusted by means of slides and thumb screws, either up or down, forwards or back, or latterally as desired.

Claim.—First, the corder E F G H I, substantially as described and represented, and adapted to feed the cord underneath the main fold, and into the angle formed between it and the secondary fold.

Second, the combination of the devices, substantially as described, by which the corder shank is moved vertically, laterally, or backward and forward, according to the requirements of this work.

No. 49,969.—F. C. BROWN, Palmyra, N. Y.—*Apparatus for Packing Rubber for Dental Purposes.*—September 19, 1865.—This invention consists of a tube fitted with a piston which is secured to a rack. A pinion gears into this rack and imparts motion to it, the motion being imparted to said pinion by means of a weighted lever. The lower end of the tube is provided with a nipple on which is screwed a flask, which is held together by a clamp and wedge; this flask is provided with an indicator, and is placed in a bath filled with water, which is heated by means of a lamp.

Claim.—The combination of the piston B, barrel A, flask G, heated bath H, with the accessories, substantially as described, forming an apparatus for injecting rubber into moulds.

Also, the combination of the flask G, piston B, barrel A, and indicator wire *f*, substantially as described and represented.

No. 49,970.—JACOB BEHEL, Rockford, Ill.—*Binding Attachment to Reaping Machines.*—September 19, 1865.—This invention has for its object the combination of certain devices for compressing the gavel and tying the band, heretofore patented to this applicant, with the ring carrier, for which a patent was granted to S. T. Holly, January 26, 1864, together with certain details of construction, and arrangement of some of the parts as designated in the claim.

Claim.—First, the arrangement of the cog-wheel that transmits motion to the ring carrier of a binding apparatus upon the axle of one of the wheels, which holds the ring carrier in its place, substantially as set forth.

Second, the combination, in the same binding apparatus, of a ring carrier and a vibrating tension arm to control the compressing strap, substantially as set forth.

Third, the combination of the ring carrier of a binding apparatus with a strap holder, of suitable size and form, to seize and hold the knotted end of a rope-compressing strap, substantially as set forth.

Fourth, the combination of the detachable strap holder with an escapement, which permits the compressing strap to relax its grasp upon the grain and subsequently to be withdrawn from the sheaf, substantially as set forth.

Fifth, the combination of the twining cord holder with the ring carrier, substantially as set forth.

Sixth, the combination of the twining cord holder and ring carrier with the grooved case, substantially as set forth.

Seventh, the combination of the cord spool and its friction apparatus with a swinging frame and cord guide, substantially as set forth, so that the tension is relaxed by drawing the binding material from the spool.

Eighth, the combination of the proving frame of the tying bill with the fixed framework of the binding apparatus by toggle-jointed links, substantially as set forth.

Ninth, the combination of the slotted plate for holding the cord band with the guide plate for guiding it into the slot of the said plate, substantially as set forth.

Tenth, the combination with the cord holder of a movable protector, substantially as set forth.

Eleventh, the combination of the tying bill and movable knife, substantially as set forth.

Twelfth, the combination of the knife and the instrument for transmitting motion to the escapement of the compressing strap holder, substantially as set forth.

Thirteenth, the combination of a pair of spring dogs upon the ring carrier with a yielding stop upon the framework of the binding apparatus, substantially as set forth.

No. 49,971.—HARRIS BOARDMAN, Lancaster, Penn.—*Cork Machine.*—September 19, 1865. —This invention consists in a cork-cutting machine of a circular revolving knife, a feeding chamber upon which the blank cork is placed and grasped by and between the arbors and carried, by the action of a cam, upon the table on which the arbors work in head stocks and present the cork to the revolving knife until the revolving arbor has made one revolution, when the arbors separate and the cut cork is released; the arbors fall back to receive and grasp another cork.

Claim.—First, a chamber G H I, made adjustable in itself independently from the adjustability of the bed plate A, operated substantially in the manner and for the purpose set forth.

Second, the construction and operation of the spindles or graspers V W, and their appliances, arranged and in combination with the cradle Y, operating jointly, substantially in the manner and for the purposes set forth.

Third, the employment of a tumbler K *o o*, hanger, or its equivalent, substantially applied in the manner and for the purpose shown and described.

Fourth, the raising and dropping of the knife E for the purpose of giving the finishing cut to the cork, actuated substantially in the manner specified.

No. 49,972.—E. K. BRUCE and JNO. M. BRUCE, Liberty, Penn.—*Coal-mining Machine.*—September 19, 1865.—This invention consists of a series of horizontal drills lying parallel with each other and rotated simultaneously by suitable gearing in an adjustable frame, which may be moved backward and forward to feed the drills up to their work. Each of said drills is provided with a spiral flange of gradually increasing pitch.

Claim.—First, the combination of the frame B, shafts E F, bevel gears *c d*, drill spindles C, truck A, toothed rack I, and feed shaft H, all constructed and arranged substantially as and for the purpose specified.

Second, the application to the drills of spiral flanges with gradually increasing pitch, substantially as and for the purpose described.

No. 49,973.—ALPHEUS BUGBEE, Elkhart, Ind.—*Machine for Sowing Plaster.*—September 19, 1865.—This invention consists in the construction of double forks and stirrers combined with the slide, and in a shield which keeps the plaster off the forks.

Claim.—The shape and construction of the double forks and stirrers E, when arranged and combined with the slides D, and operated as herein described and for the purposes set forth.

Also, the shield R, as arranged and combined with the stirrers E, for the purposes set forth.

No. 49,974.—RANSOM BULLARD, Litchfield, Mich.—*Sorghum Evaporator.*—September 19, 1865.—This invention consists of an evaporating pan, provided with chambers, which are separated by partitions; the arrangement of the same will be understood by reference to the claim and engraving.

Claim.—The combination and arrangement of the slow evaporating section or compartment *b b* of the evaporating pan, the direct flue chamber *g*, and the side flues *k k*, extending through the brick-work, so as to communicate the heat to the evaporating pan through the medium of a slow conductor, substantially as and for the purpose herein specified.

Also, the described method of constructing and uniting the sections of the evaporating pan A, substantially as described.

No. 49,975.—W. H. BUTLER, Chicago, Ill.—*Amalgamating Apparatus.*—September 19, 1865.—In this apparatus the quartz is forcibly fed into the amalgamating vessel, where it is held immersed or submerged by pressure, while it is thoroughly stirred and mixed with the amalgam.

Claim.—Feeding the quartz into the amalgamating vessel by a forced feed, and holding it immersed or submerged therein by pressure while it is thoroughly stirred and mixed with the amalgam, using therefor an apparatus constructed and operating substantially as herein described and represented.

No. 49,976.—Wm. J. and Rhutson Case, Pittstown, N. J.—*Harvester Rake.*—September 19, 1865.—This invention consists in the arrangement of parts for driving and regulating the motion of the rake. The claim and engraving explain the invention.

Claim.—First, the vibrating upright shaft D, with rake J attached to it, as shown, in connection with the rope *e*, connected to the bar I and pulley M, on shaft N, all arranged either with or without the spring P, to operate in the manner substantially as and for the purpose set forth.

Second, the arrangement of the wheel H, provided at its upper surface with teeth *e* and the ledge *p*, in connection with the part pinion *o* and shaft N, for the purpose specified.

No. 49,977.—R. W. Chappell, Chicago, Ill.—*Washing Compound.*—September 19, 1865.—This invention consists of a composition of unslacked lime, sal soda, borax, salt of tartar, ammonia, alcohol, and water.

Claim.—A washing compound, composed of the herein described ingredients, in the proportions substantially as herein described and specified.

No. 49,978.—Andrew S. Clackner, Rochester, N. Y.—*Implements for Contracting the Barrels of Watch Main-springs.*—September 19, 1865.—This invention consists of a circular metallic plate in which are six circular and gradually tapering cavities of varying diameter, and a punch stock having a screw tenon upon one end which may be screwed into either one of a series of circular disks, equalling in number and corresponding in diameter with said cavities.

Claim.—First, constructing the barrels of watch main-springs by forcing the same within a circular tapering cavity by means of a plunger or other equivalent device.

Second, in combination with a circular tapering cavity, as above set forth, a follower, constructed substantially as described.

No. 49,979.—Benjamin Clark, New York, N. Y.—*Oil Can.*—September 19, 1865.—An oil cup, shaped like an ordinary funnel, has a flexible cover for the head end which cover is protected by an annular guard of thick metal, covering to a limited extent the face and turned edge of the diaphragm. A spiral spring within the cup serves to keep the diaphragm from becoming depressed.

Claim.—An oil can, having a spring B and a lined elastic diaphragm, protected by a guard A, all substantially as shown and described.

No. 49,980.—Wm. W. Clay, Philadelphia, Penn.—*Knitting Machine.*—September 19, 1865.—In this machine the needles are latched at both ends, and run in grooves across an opening through which the fabric passes, thus operating when desired on both sides this opening; they are actuated by hooked carriers running in the same grooves, and which by rising and descending an incline are made to seize or release the hook of the needle. A system of pattern wheels, movable arms, ratchet and levers is provided to produce the changes.

Claim.—First, the combination of the hooked carriers F, the cams herein described, or their equivalents, for operating the said carriers and self-acting needles, whether the latter are arranged to operate in parallel grooves, in conjunction with a reciprocating thread carrier, or in radial grooves in conjunction with a rotating thread carrier, all substantially as described.

Second, the bed plate A, its opening *a* and grooves *b*, with the inclined edges *x*, adapted for the reception and operation of the needles D and carriers F, substantially as specified.

Third, the combination of the said movable cams with the pattern wheels when the latter are operated by the machine, through the medium of the devices herein described, or the equivalent to the same, for the purpose specified.

No. 49,981.—Jeremiah Close, Brooklyn, N. Y.—*Planing Machine.*—September 19, 1865.—This invention consists in arranging the feed rollers of a planing machine, so that stuff in circular form can be fed to cutters by allowing the shafts and their driving gear to be moved radially to the circle, so that the feed rollers will act nearly at right angles with the circular stuff as it is fed to the cutters, and holding it firmly against the guide.

Claim.—The arrangement of the adjustable feed rollers, the form or guide E2, with the cutter head B′, and cutters *c c*, when operated for the purposes substantially as described.

No. 49,982.—Jeremiah Close and Ira Buckman, Jr., Brooklyn, N. Y.—*Hinge.*—September 19, 1865.—In this invention the central leaf of a double jointed hinge, composed of three leaves and two pintles, has a vertical cavity in which a spiral spring is connected at top and bottom with grooved pulleys; the pintles are secured to the outer leaves, one of which at the top has a groove corresponding with the grooved pulley secured to the top of the spring; the other is arranged in the same manner at the bottom; chains are secured to the pulleys and grooves of the pintles, so that when the door is opened in either direction the strain upon the spring tends to shut it.

Claim.— In a hinge composed of three leaves and two pintles, operating the two other leaves by a power located within a cavity or cavities in said central leaf, substantially as described.

Also, a hinge formed with three levers and two pintles, as described, the spring or springs of which are located in a cavity or cavities formed in the central leaf, in combination with the wrench or forked spring holder E, the collar P, the grooved pulley D, the wrench or capstan N, the chain C, and smaller grooved pulley D on the shaft of the outside leaf B, substantially as and for the purposes herein set forth.

No. 49,983.—HALL COLBY, New York, N. Y.—*Lubricating Compound for Journal Boxes, &c.*—September 19, 1865.—This invention consists of a mixture of asbestos, plumbago, and any suitable liquid, such as ether. The composition can be poured from a can in the same manner as the common lubricating oils.

Claim.—First, the use of a lubricator composed of asbestos and plumbago mingled with a liquid so as to be capable of being applied to journal boxes and other rubbing surfaces, in the manner substantially as hereinbefore described.

Second, the use of a fabric made from asbestos, and without any combustible substance incorporated therewith, to be interposed between rubbing surfaces, and saturated with the lubricator above described, in order to produce an anti-friction surface for the journals of heavy machinery and other like purposes, substantially as described.

No. 49,984.—M. H. COLLINS, Chelsea, Mass.—*Lamp.*—September 19, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The improved lamp as not only constructed with its cone or deflector E, and its chimney rest D and chimney, arranged with respect to each other, as described, but as having the said deflector provided with peripheral springs, or the same, and the slits *h h*, and the said rest D, made concavo-convex, and provided with an annular groove or lid at bottom for supporting the chimney, the whole being substantially as described and represented.

No. 49,985.—CHARLES CROFUT, Weston, Conn.—*Weeding Hoe.*—September 19, 1865.—This invention consists in adjusting the handle of the hoe by means of serrating the upper part of the shank of the blade and wedging each side of the same, and thereby adjusting it to either a tall or short person.

Claim.—The adjustable arrangement of the serrated gib E, and stem D, with the plain gib F, and key G, in the manner and for the purpose substantially as herein described.

No. 49,986.—WM. DAMEREL, Brooklyn, N. Y.—*Umbrella.*—September 19, 1865.—In this invention the part which holds the covering at the crown, and in which the whalebones centre, revolves as a loose sleeve in a groove or between pins or flanges. The part in which the supports centre, and which moves up and down upon the handle, carries a key spring upon it, the end of which may enter the handle wherever a perforation is made for it.

Claim.—First, in umbrellas and parasols so securing on the stick the crown piece or other device to which the upper ends of the ribs of such articles are attached as that the said crown piece and the parts attached to it shall be capable of rotating on the stick, substantially as described.

Second, in combination with the crown piece D, the collar G G, with the longitudinal flanges *a a*, and a cap E, for enclosing the upper edge of the covering C, and confining it to the crown piece, substantially as described.

No. 49,987.—GEO. W. DUVALL, Norfolk, Va.—*Ferrule for Boiler Tubes.*—September 19, 1865.—This invention consists in constructing a ferrule in sections with a raised portion at the junction of one section sufficiently large to be drilled out to receive a screw bolt made tapering so that when the ferrule is inserted into the tube and the bolt is screwed into the ferrule the proper distance, the ferrule will be forced out against the inside of the tube sufficiently to stop any leak that may have existed around the end of the tube.

Claim.—A screw or screws B, in combination with a cylinder in one or more parts, for the purposes specified, substantially as described.

No. 49,988.—JAMES EATON, Boston, Mass.—*Spinning Machine.*—September 19, 1865.—In this invention the helical tip used is the same as in Eaton's patent No. 35,145. The advantages claimed are that in consequence of the tube or bobbin, which is of tin, being much longer than the cap, the mass of yarn is kept in shape better than upon short tubes; the expense of tapering the spindle is avoided and the hollow cylindrical spindle while being lighter may be made by the process of tube drawing and thus also receive a harder and more condensed surface.

Claim.—A cylindrical spindle, either solid or tubular, of a mule or other spinning frame, provided with a helical tip, as herein set forth.

Also, the cylindrical tube or bobbin, either with or without the ferrule or band R, in combination with a spindle having a helical tip.

Also, the combination of the cylindrical tube or bobbin O with a cylinder having a helical tip, or its equivalent, substantially as herein described and for the purpose specified.

No. 49,989.—E. W. EDGE, Jersey City, N. J.—*Decarbonizing Clay Retorts.*—September 19, 1865.—This invention consists in the employment of a current of air mixed with steam

for decarbonizing retorts. The apparatus used consists of an air pipe with a funnel-shaped mouth-piece, and a steam pipe which extends transversely through the mouth-piece, and from which extends a nozzle.

Claim.—The use of a mixture of steam and air produced by means substantially such as herein described, or any other equivalent means, and injected into a retort, for the purpose of decarbonization as set forth.

No. 49,990.—C. A. EMERY, Springfield, Mass.—*Clutch or Rope Holder.*—September 19, 1865.—In this cleat or crutch, in place of a cam, the one-half of a pulley block sheave divided in diameter is used; the rope to be held passes in the groove of the semicircle, and then between its diameter and a base piece fixed in position. As the strain of the rope presses the semicircle against the base, the rope between is firmly held.

Claim.—The device constructed, arranged, and operating substantially as shown and explained and for the purpose specified.

No. 49,991.—JACOB EUTENEUR, Peoria, Ill.—*Lock.*—September 19, 1865.—This invention consists in the arrangement of certain devices by means of which any movement of the latch bolt carries two hammers to strike a bell; and also in the arrangement of a plate which may be made to cover the key-hole, so as to prevent the admission of a key from the outside, and be held in a locked state by means of a bar attached to said plate and projecting through and outside of the case.

Claim.—First, the two arms H H′, attached to the hub G, provided with the pivoted bars I I, and connected with the latch C, as shown, in combination with the two bell hammers M M′, bell N, and lever L, the rods J M of the hammers being attached to the arbors *g i*, provided with projections *f h*, and all arranged substantially as and for the purpose specified.

Second, the plate or key-hole guard Q, in combination with the road or bar R, arranged and applied to the lock, substantially as and for the purpose set forth.

No. 49,992.—BEN. FIELD, Albion, N. Y., and G. M. PULLMAN, Chicago, Ill.—*Sleeping Car.*—September 19, 1865.—The car seat in this invention is constructed with the back and seat cushions hinged together and disconnected with said seat so that the back cushion may be placed on the seat, and the seat cushion extended to meet that of the opposite seat. A berth is connected to the side of the car by hinges and supported by jointed suspenders so that it can be turned up in an inclined position when not in use, and lowered to a horizontal position when required for use.

Claim.—First, constructing a car seat with back and seat cushions hinged together and disconnected with said seat, so that the back cushion may be placed on the seat and the seat cushion extended to meet the seat cushion of the opposite chair, in the manner and for the purpose herein set forth.

Second, the berth A connected to the side of the car by hinges B, and supported by jointed suspenders C, so as to be turned up into an inclined position during the day, and lowered to a horizontal position at night, all as herein described and for the purposes set forth.

No. 49,993.—J. G. FLOYD, Keokuk, Iowa.—*Lamp Chimney.*—September 19, 1865.—This invention consists in making a hole in the lamp chimney in order to insert a match to light the lamp.

Claim.—The within described new article of manufacture, to wit: a lamp chimney with a hole or holes in its sides or parietes thereof, as set forth and described, or when constructed with any other holes in its sides, designed for the same purpose.

No. 49,994.—G. P. and G. F. FOSTER, Mohawk, N. Y.—*Cartridge Retractor for Breech-loading Fire-arms.*—September 19, 1865.—This invention consists of a sliding retractor placed within the lower part of the hinged or swinging breech block and forcibly pressed outward a limited distance by the action of a spring. The retractor is kept under the bulge or flange of the cartridge by means of an oscillating lever or detent, which is tripped when the breech block is opened to a certain extent, thereby releasing the spring retractor for ejecting the cartridge.

Claim.—First, the expelling pin P, in combination with the spring Q, and sere R, operating substantially in the manner described.

Second, the sere R, actuated to free the expelling pin by impingement upon a projection during the vibration of the breech block.

Third, the expelling pin P, retracted in the upward vibration of the breech block, and reset by the spring sere, substantially as described.

No. 49,995.—J. FRASER, Buffalo, N. Y.—*Method of Treating Oil Wells for the Removal of Paraffine.*—September 19, 1865.—This invention consists in forcing carbonic oxide in a highly heated state into the well. In carrying out the invention a furnace is supplied with ignited fuel, and air is forced through it by means of a pump; the upper part of said furnace is connected with a pipe which passes directly into the well.

Claim.—The employment of carbonic oxide for treating petroleum wells to remove obstructions, composed of paraffine and other deposit, substantially as set forth.

No. 49,996.—CHARLES GOLDTHWAIT, South Weymouth, Mass.—*Bottle Stopper.*—September 19, 1865.—This invention consists of a cap fitting upon a cork, the inner edge of the said cap being turned down so as to form a flange. A metal plate is forced tightly into the cork, and fits in notches in the metal cap; the cork may be provided with a metal plate, or covered with wax.

Claim.—A metallic mounting for bottle corks, composed of a cap D and plate E, and either with a metal plate *b*, or a wax covering *c*, all arranged and applied substantially as and for the purpose herein set forth.

No. 49,997.—B. A. GRANT, Mount Pleasant, Iowa.—*Combined Seed Sower and Stalk Cutter.*—September 19, 1865.—In this machine, between the rear ends of the plough-beams, an ordinary cornstalk cutter is pivoted. A bent metallic rod connects the two beams, and receives at its top the hook of a bent lever for raising the ploughs; a treadle moves laterally a sliding bar, which, through iron upright rods, adjusts the plough-beams laterally.

Claim.—First, the combination and arrangement of the crank M, provided with the lever N, the slide bar L, the rods J J, and the plough standards F F, when all constructed and operating substantially as set forth.

Second, the combination and arrangement of the lever R, arm S, the connecting bow T, and beams D D, when constructed substantially as herein specified and described.

Third, the combination and arrangement of the beams D D with the cornstalk cutter U, when constructed and operating substantially as herein set forth.

No. 49,998.—JAMES HARRIS, Janesville, Wis.—*Sugar-cane Mill.*—September 19, 1865.—This invention consists in the employment, in combination with a nut, of a sliding box, together with a yoke and nut and a spring, in such a manner that the mill may be rendered either rigid or elastic at pleasure. The spring attachment of the roller bearing is adjusted by means of a yoke and set screw.

Claim.—First, the combination of the sliding box K, bolt *b*, spring *a*, and yoke L, with the nut *e*, for the purpose of making the mill either rigid or elastic at pleasure, substantially as set forth.

Second, securing and adjusting the spring attachment of a roller-bearing by means of the yoke L and set screw *d*, substantially as set forth.

No. 49,999.—W. H. HARTMAN, Fostoria, Ohio.—*Extension Lever Jack.*—September 19, 1865.—This invention consists in the arrangement of a series of devices designated in the claim, for the purpose of forming an extension lever jack, and will be understood by reference to the engraving.

Claim.—The dogs *h* and *g*, spring *f*, band *e*, stirrup *e*, in combination with the lever E and standard C, when constructed, arranged, and operating as and for the purpose substantially as set forth.

No. 50,000.—CHAS. HAVARD, New York, N. Y.—*Manufacture of Candles from Paraffine.*—September 19, 1865.—This invention consists in heating the paraffine to about 80° Fahrenheit, and, when so heated, adding a mixture of sulphuric acid and lime water, the melted paraffine being constantly agitated during the operation. The heat is then raised, and the mixture boiled for fifteen minutes, after which it is allowed to rest until perfectly clear, when it is run into shallow pans and cooled. The cakes thus formed are placed in woollen bags, and these enclosed in bags made of linen; they are then subjected to hydraulic pressure until all the liquid is pressed out. The cakes are then removed from the bags and melted, when a quantity of white naphtha is added, and the composition cooled and subjected to pressure as before. The composition is then melted, and animal charcoal, pipe clay, and caustic soda lye added to it, and the whole boiled for five minutes. The mixture is allowed to rest in the tank until the clay and charcoal have settled, when it is run into a clean tank mixed with twenty per cent. of stearic acid, and heated to 200° Fahrenheit, and then run directly into the candle moulds.

Claim.—A new and improved process for making candles or blocks from the paraffine of petroleum, as herein described, using for that purpose the aforesaid ingredients or composition of matter, or any other substantially the same, and which will produce the intended effect.

No. 50,001.—ROBERT HOOD, Dayton, Ohio.—*Rock-drilling Machine.*—September 19, 1855.—This invention consists in the use of a spiral lifter, in combination with a tappet, extending from a sleeve fitted on the drill rod, and with an arm extending from said sleeve to a cam slot in such manner that the drill is alternately raised by the spiral lifter and made to fall by a cam slot.

Claim.—First, the use of a spiral lifter B, in combination with one or more drills or drill rods, constructed and operating substantially as and for the purposes described.

Second, the cam grooves *l*, and sleeves *j*, with arms *k*, and tappets *i*, in combination with the spiral lifter B, constructed and operating substantially as and for the purposes set forth.

No. 50,002.—WILLIAM HENRY HORTON, Jersey City, N. J.—*Chimney Cap.*—September 19, 1865.—This invention consists of a pyramidal or cone-shaped cap of sheet metal fitting

closely over the chimney flue, its apex being closed, and its sides being open near the centre; over this is fitted another cap of similar shape and material, open at top and bottom, its sides covering the openings in the sides of the inner cap, and being at a sufficient distance to allow a draught between.

Claim.—The inner cap A closed at the apex and open at the sides, and the outer cap B open at the top and bottom, while its sides cover the apertures in the inner cap, substantially as and for the purpose herein specified.

No. 50,003.—JOHN A. HUBBARD, West Moulton, Me.—*Wind Wheel.*—September 19, 1865.—In this invention a vertical shaft ascending through a framework carries near its top a horizontal disk from which descend a circle of blades. Another disk is slotted to move on these blades, and from it descends a cylindrical apron which may be made to cover, or partially cover, the blades or buckets, to suspend or modify the action of the wind thereon. A vane and a shield stand at right angles with a sleeve on which they move upon the top of the shaft. The apron rises and falls in obedience to a governor with which it is connected, said governor consisting of a cord and weight pendent from a conical drum connected with a small auxiliary wind wheel.

Claim.—First, a wind wheel provided with oblique buckets *b*, in connection with a vane D, having a shield E, attached and arranged to operate in the manner substantially as and for the purpose set forth.

Second, the gate F, and wind wheel C, constructed, arranged, and operating in the manner substantially as and for the purpose set forth.

Third, the supplementary wind wheel L, combined and arranged with the shaft J, and with the cone M, having the weight N attached and connected with the gate F, substantially as and for the purpose specified.

No. 50,004.—GEORGE HULL, Wallingford, Conn.—*Fog Alarm.*—September 19, 1865.—This invention consists of a spiral coil of tubing, each end of which is provided with a whistle and valve opening inwards, mounted upon a shaft, to which an oscillating motion is given by the motion of the vessel. The coil contains a small quantity of water, which, as the spiral is rotated, changes its position, and forces the air out through the whistles with a prolonged sound.

Claim.—The combination of a coil of tubing C, and one or more whistles E, when constructed and arranged in the manner described, so as to sound a prolonged alarm, for the purpose specified.

No. 50,005.—G. O. HUTSON, Iowa city, Iowa.—*Gate Post.*—September 19, 1855.—This invention consists in providing one end of the gate near the bottom with a bearer, and at the top with a band or ring, whereby the said gate is made adjustable by means of notches in the post, higher or lower.

Claim.—The combination of the gate post provided with shoulders or grooves, the bearers attached to the lower portion of the gate, and the band which forms the upper support, substantially as described and represented.

No. 50,006.—J. BURROWS HYDE, New York, N. Y.—*Compound for Destroying Vermin.*—September 19, 1865.—This invention consists of a mixture of petroleum with a decoction of tobacco.

Claim.—A mixture of extract of tobacco and petroleum for the purposes set forth.

No. 50,007.—ANDREW IRION, Femme Osage, Mo.—*Saddle Stirrup* —September 19, 1865.—This invention consists of a stirrup made in two separate parts, hinged together at the bottom, these parts consisting of side pieces, a bottom piece, together with a spring and lugs.

Claim.—First, a stirrup made in two separate parts, hinged together at the bottom, as described in the foregoing specification.

Second, the several parts of the stirrup, viz., the side pieces A and A′, the bottom piece B, the spring *h*, and the lugs W and X, or their equivalents, when constructed and arranged as and for the purpose set forth.

No. 50,008.—TIMOTHY J. KELLEHER, Boston, Mass.—*Shoe Lacing.*—September 19, 1865.—This invention consists in the application to each flap of a fly or piece of leather parallel to the under side of the flap and along its edge. In the flaps is inserted a series of studs, so arranged as to leave a space to receive the lacing, which, when applied to the two flaps, is to be laced around the studs.

Claim.—The above described improved arrangement of the studs and the lacings with respect to the two flaps of the opening.

Also, the combination and arrangement of the flies and the studs with the two flaps, or the same, and the lacing of the said opening as explained.

No. 50,009.—ELISHA KENNEY, Livermore, Me.—*Churn.*—September 19, 1865.—This invention consists in making the surfaces of the dasher blades of bevel faces, in combination with peculiar shaped apertures, and in a guide for the dasher rod, combined with the gear mechanism.

Claim.—First, the arrangement herein described of the gear mechanism in reference to the dasher, in combination with the adjuster guide, substantially as set forth.

Second, the construction, arrangement, and operation of the reciprocating dasher of churns as described—that is to say, forming the same of bevel faces or inclined planes, in combination with apertures, substantially as set forth.

No. 50,010.—JOHN LACEY and GEORGE WATKINS, Bristol, Wis.—*Car Coupling.*—September 19, 1865; antedated September 10, 1865.—This invention consists in providing, in addition to the link and pin usually employed, or as a substitute therefor, two hooks, one in each drawhead, so arranged that, by the concussion of two drawheads, the said hooks shall automatically couple the cars.

Claim.—First, the hook B, arranged in respect to the drawhead A, and operating substantially as and for the purposes set forth and shown.

Second, the employment of two hooks B B, combined and arranged with the drawheads A A, substantially as and for the purposes delineated and set forth.

Third, the combination and arrangement of the drawheads A A, the hooks B B, slots C, rods D, and blocks E, as and for the purposes shown and described.

No. 50,011.—SAMUEL D. LECOMPTE, Leavenworth city, Kansas.—*Instrument for Opening Sealed and other Cans.*—September 19, 1865.—This invention consists of a bar, provided with a suitable knife, which is made adjustable, one end of the bar being pointed and bent in such a manner that a fulcrum is provided in which to turn the instrument after the end is thrust through the top of the can.

Claim.—An instrument for opening fruit and other sealed cans, constructed substantially as herein shown and described.

No. 50,012.—MARK LEE, Needham, Mass.—*Stop Motion for Knitting Machines.*—September 19, 1865.—By this invention, when a knot or imperfection in the thread is approaching the needles, it fails to pass through a slit cut in a lever, and thus forces up its outer end, which, through a connecting wire, lifts one arm of another lever and brings the opposite arm into connection with the shipper to stop the machine. When the thread breaks the longer arm of a lever falls, the wire at its shorter end lifting the above-mentioned lever as before, and with the same result.

Claim.—The improved stop motion composed of the upright stand A, the bars E E with the yarn scraper F, the dropper or bar H, and the bar K, together with their appendages, constructed, arranged, and combined so as to be used in connection with any loom or machine for making knitted cloth, substantially as herein specified.

No. 50,013.—LEWIS H. LEZOTT, Washington, D. C.—*Mode of Supplying Railway Trains with Water.*—September 19, 1865.—This invention consists in attaching the outer end of a pump lever to a sliding bar or gate, so arranged in the line of the rail of a railroad that as each wheel passes over the head of this beam it is pressed down, and thus the pump is operated, the head of the beam being forced up after each depression by a suitable spring.

Claim.—The arrangement and combination of the sliding gate D with its grooved posts C, lever G, spring J, and pump rod K, the whole being attached to a railway and operated by the passage of the cars, as herein described and for the purposes set forth.

No. 50,014.—OLIVER LINDSAY and ISAAC VANCE, Washington, Penn.—*Artificial Hand.*—September 19, 1865.—This invention consists in applying the steel ligatures of the fingers to a transverse rod which is connected to a toothed sliding bar; the position of the bar is regulated by two pawls which can be operated by the hand, and thus the fingers can be retained in any position.

Claim.—The steel ligatures, slide bar, and ratchet, or series, in combination with the artificial finger joints, enabling the hand to operate as desired, and also the socket, as above described.

No. 50,015.—ISAAC LOSSIEL, Philadelphia, Penn.—*Lubricating Compound.*—September 19, 1865.—This invention consists of a composition of soda ash, soap, Irish moss, with a proper quantity of water.

Claim.—A lubricating compound consisting of the combination of the ingredients herein described, in the proportions substantially as specified.

No. 50,016.—ISAAC F. A. A. LYNCH, Roxbury, Mass.—*Weather Strip for Doors.*—September 19, 1865.—This invention consists in the insertion diagonally of a strip of India-rubber or similar material between two strips of wood, so that the rubber will project from the wood on either side. In the rear is a rebate in the strip to receive the dust or water that may find its way to the inner side of the door.

Claim.—The improved weather strip as made with the strip of elastic material or India-rubber *c c*, to project in opposite directions from the lower and rear sides of the holder, substantially in manner as described.

Also, in combination with the elastic strip *c c*, to project from the rear part of the holder, as described, the rebate *d* made in the holder, and arranged with reference to the said elastic strip, substantially as specified.

No. 50,017.—DAVID F. MAINE, Mansfield, Ohio.—*Trace Buckle.*—September 19, 1865.—This invention consists of a cam fixed upon a roller-pin and held in its position by a spring, which cam, playing upon the under side of the trace, binds it tightly.

Claim.—First, the use of a vice, constructed substantially as described and for the purposes mentioned above.

Second, the cam and spring, constructed and used substantially as above described.

No. 50,018.—ABRAHAM J. MANNY, Freeport, Ill.—*Cultivator.*—September 19, 1865.—The novelty of this invention consists in a jointed axletree, the same being composed of three sections of about equal lengths. To the middle section is attached a horizontal bar which extends backward and supports the seat. The articulations of the joints of the axletree are horizontal, so that by a movement of the seat the cultivator is guided in the desired direction.

Claim.—First, the employment of the lever E, the bar 6, and the yoke F, or its equivalent, for the purpose of giving direction to the machine from the seat, as is herein fully set forth.

Second, attaching the plough beams to the hounds or side-pieces A A in such a manner that said beams can be brought closer together or separated by moving them forward or backward, as is herein represented.

Third, the combination of the triangular frame with the devices for changing the direction of the machine, as and for the purpose specified.

Fourth, the combination of the levers G and H H with the plough beams, as and for the purpose herein specified.

No. 50,019.—CHARLES F. MARTINE, Dorchester, Mass.—*Lamp.*—September 19, 1865; antedated September 10, 1865.—This invention consists in the combination of a perforated cylinder around the wick tube with its flange at the top, and a non-conducting support or base.

Claim.—The perforated cylinder B with its flange or ring *c* in combination with a non-conducting base or support *b*, to which the perforated cylinder is attached, operating substantially as set forth, for the purpose specified.

No. 50,020.—JOHN M. MAY, Janesville, Wis.—*Rock Drill.*—September 19, 1865.—This invention consists of a series of devices for operating an artesian well-borer, the principal object of which is covering the faces of broken pulleys used to lift and set free a drill with leather, India-rubber, or other suitable elastic substance. The claim mainly describes the nature of the invention.

Claim.—First, covering the face of broken pulleys used to lift and set free drills, and for other similar purposes, with leather, India-rubber, or other suitable slightly elastic material, substantially as and for the purposes described.

Second, a non-elastic or rigid bar faced with leather, rubber, or other suitably elastic material, on its sides next to metallic pulleys, when used with metallic-faced pulleys, substantially as and for the purposes described.

Third, a hollow bar to receive the spindle of a drill when the hollow bar is operated between broken pulleys, the hollow bar and spindle serving as a swivel to allow the drill and spindle to be revolved horizontally at the same time it is operated vertically as the drilling process.

Fourth, a gripe or vice connected by a swivel to the operating mechanism of a drill, when the vice is constructed substantially as and for the purposes described.

Fifth, the general arrangement of the pulleys B′ B′, bar L, shafts C C, guides S S and R, when combined and operated substantially as and for the purposes described.

Sixth, elastic washer *m* of rubber, or its equivalent, between the top of bar T and washer *m′* in Fig. 4, when used as and for the purposes described.

No. 50,021.—JAMES S. MCCURDY, Bridgeport, Conn.—*Screw Driver.*—September 19, 1865.—This invention consists of a screw-driver blade having a hole in the centre of its length, and points of different sizes pivoted to a slotted handle, so that one-half the length of the blade is enclosed in the slot of the handle, and can be turned around to present either point for use.

Claim.—As a new article of manufacture the screw-driver, as constructed with slotted handle and with a blade, having two or more points pivoted into such handle, substantially as herein described.

No. 50,022.—HENRY W. MILLAR, Utica, N. Y.—*Construction of Cans.*—September 19, 1865.—This invention consists in forming the bottom of a can of a series of triangular pieces, so shaped and so united with each other by solder as to somewhat resemble in form a cone with its apex pointing upwards within the body of the can, the apex itself being cut off and covered by a cap. The inner edge of the bottom is bent up all around, and the body of the can is placed within this flange, and the two parts are then united by solder.

Claim.—Constructing the bottom and securing the same to the body of the can in the manner shown and described.

No. 50,023.—W. F. MORGAN and F. C. BARTLETT, New York, N. Y.—*Grate Bar Supporter.*—September 19, 1865; antedated September 6, 1865.—In this invention between a grate bar and a truss bar suspended beneath it is a narrow space; the truss bar is supported in such a manner with loops depending from the grate that they can expand or contract by sliding therein.

Claim.—In combination with a grate bar, or fagot of bars of any convenient form, the application of the truss bar *a*, with the space C intervening between it and the main bars B, and with the loops X, or their equivalents, supporting the truss bar *a* in such a manner that the expansion and contraction of the latter shall be allowed by sliding one upon the other, substantially as herein set forth.

No. 50,024.—H. L. MOULTON, Camden, N. J.—*Spinning Jack.*—September 19, 1865.—The main object of this invention is to insure a simultaneous starting of the delivering, stretching, and twisting devices, and to permit the delivering operation to cease at any point during the outward movement of the carriage, and while the stretching and twisting is continued. The devices and their action cannot be briefly described.

Claim.—First, the sliding bars R and R′, constructed and arranged in respect to each other substantially as described, and provided with such appliances that they shall be simultaneously elevated as the carriage approaches the limit of its inward movement, while one of the bars is at liberty to be depressed after the carriage has commenced its outward movement, without disturbing the other bar, all substantially as and for the purpose herein set forth.

Second, the combination of the bars R and R′, their wheels Q and Q′, operated by the worms *i*, or their equivalents, and having adjustable pins X′ and X, together with the spring rods V and V′, the whole being arranged, constructed, and operated substantially as and for the purpose herein described.

Third, the vertical bar R, in combination with the clutch *c*, on the driving shaft, and the devices herein described, or their equivalents, through the medium of which the bar R is caused to operate the said clutch.

Fourth, the combination of the clutch *c*, on the driving shaft, with the system of delivering rollers, and the intermediate system of gearing described, or its equivalent, whereby a positive motion and certain starting and stopping of the delivering rollers are effected.

No. 50,025.—JAMES MYERS, Jr., New York, N. Y.—*Flour Sifter.*—September 19, 1865.—This invention consists of a semispherical sieve, in connection with an oscillating frame provided with balls, for agitating the flour, and forcing it through the sieve.

Claim.—A sieve for family use, constructed in the form of a semisphere and provided with an oscillating frame, the lower part of which has a curved rod corresponding with the curvature of the sieve and having upon it a series of spheres or balls, all arranged substantially as shown and described.

No. 50,026.—ERASTUS NEWHALL, Lynn, Mass.—*Boot Heel.*—September 19, 1865.—This invention consists in the employment of vulcanized moulded heels for boots and shoes, and the insertion within such heels of a body or core of wood, so located that said core will receive the nails which are driven from within a boot or shoe sole, and into the heel, the wood holding the nails more firmly than the rubber.

Claim.—The construction of a heel, for boots or shoes, of vulcanized rubber, or its compounds, or other vulcanizable material, with a core of wood, substantially as and for the purpose specified.

No. 50,027.—P. PALLISSARD, St. Anne, Ill.—*Fruit Jar.*—September 19, 1865.—This invention consists of a jar provided with a stopper, which is secured to the mouth of a jar by means of hooks and yoke. In the cover of the jar are two holes, through one of which the liquid is introduced, the other allowing the air to escape. Two lateral openings communicate with other openings to insure the escape of all the air.

Claim.—First, the hooked straps *f f*, catching under the flange *g* of the bottle, and perforated to receive the notched bridge piece *d*, as herein described.

Second, the lateral openings *a′ b′*, arranged in relation to the vertical openings *a b*, in the corner, in the manner and for the purposes herein specified.

No. 50,028.—HUGH M. PHILLIPS, Indianapolis, Ind.—*Bolt Machine*,—September 19, 1865.—This invention consists of an anvil, in the top of which on one side is an opening having three sides, into which a pair of dies are arranged to fit, which gripe the bolt blank and hold it while the head is formed by hammering it down on the top, after which it is taken out by means of handles attached to the dies, and the sides of the head finished up by the same process.

Claim.—First, the bolt anvil, as described, when operating in connection with the gauge block G, substantially as and for the purposes set forth.

Second, the die rest K, operating in connection with the die B B, to prevent the same from opening while the head is being formed, substantially as set forth.

No. 50,029.—E. A. POND and M. S. RICHARDSON, Rutland, Vt.—*Apparatus for Carburetting Air.*—September 19, 1865.—This invention consists of a hermetically closed vessel, having a funnel-shaped bottom, which terminates at its centre in a coiled pipe. Above the vessel is an air-chamber, containing a flexible diaphragm, to the centre of which is attached one end of the rod. A reciprocating motion is given to the rod, by means of clock-work; the air is admitted to the air-chambers by valves arranged on each side of the diaphragm and is discharged into valve chambers, which communicate with the pipe. The air passes from the pipe into the reservoir, where it is charged with vapor, and then passes through the tube to the burner.

Claim.—First, in machines for generating illuminating gas by charging atmospheric air or hydrogen with the vapor of hydro-carbon fluids, the employment of a vaporizer composed of pipe or tube, coated spirally, or otherwise, as and for the purposes hereinbefore set forth.

Second, in machines for generating illuminating gas by charging atmospheric air or hydrogen with vapor of hydro-carbon fluids, in combination with the tubular vaporizer, as described, a supply reservoir to maintain said vaporizer constantly filled, substantially as herein set forth.

Third, in machines for generating illuminating gas by charging atmospheric air or hydrogen with the vapors of hydro-carbon fluids, the employment of an elastic or flexible air-diaphragm air-pump constructed and arranged for operation substantially as herein set forth.

Fourth, in machines for generating illuminating gas by charging atmospheric air or hydrogen with the vapor of hydro-carbon fluids, the employment, in combination with an air or gas pump, of a clock-work, or other spring-power mechanism, arranged to operate the said pump, substantially as and for the purpose set forth.

Fifth, in machines for generating illuminating gas by charging atmospheric air or hydrogen with the vapor of hydro-carbon fluids, the combination of the following elements:

First, a flexible or elastic diaphragm pump, or other pump, operating without the use of water or other liquid.

Second, a tubular vaporizer, substantially such as herein described; and,

Third, a spring-power mechanism to operate the pump, substantially as described.

No. 50,030.—THOMAS POWELL, Richland, Ind.—*Gaiter Boots.*—September 19, 1865.—This invention consists in a double folding gore, stitched by the side of a vertical cut or slit made in the upper leather, from the top downward, at the rear of a gaiter or shoe.

Claim.—The employment or use in gaiters or shoes of a double folding gore B, stitched by the side of a vertical cut or slit made in the upper leather from the top downward, at the rear of the gaiter or shoe, and either with or without the horizontal cut, substantially as and for the purpose set forth.

No. 50,031.—E. A. PUTNAM, Oakfield, Wis.—*Snow Plough.*—September 19, 1865.—This invention consists of a beam or bar of iron, attached to a truck, one on each side; these bars extend the whole length of the truck, and at the rear end curve downward, and have attached to their lower ends, by a hinged bar-joint, a plough for removing the snow. Near the hind end of said bar, and in front of the hind rail of the truck, there is a V-shaped bend in the bar. In front is a vertical arm projecting in which there is a slot at right angles to the bar, in which works the crank of an upright shaft, and by turning which the bar is pressed backward, and rests in the guide on the apex of the V-shaped bend, which raises the plough as the hind end of the bar is raised, to prevent breakage; when the plough strikes an obstruction there is fastened to the top of the bar a spring also curving downward at the rear end, and pressing against the plough, holding it down with sufficient force to do its work, but which will yield when the plough strikes any permanent obstruction.

Claim.—First, the application to a car truck or railroad car of ploughs arranged in such a manner that they may swing or work on pivots on a shaft, and by means of springs, or their equivalents, be kept to their work, and still be allowed to pass over obstructions, substantially as set forth.

Second, the bars B, provided with inclined surfaces and having the springs and ploughs attached to them in such a manner that the ploughs may be raised by moving or sliding the bars, and without meeting with any resistance from the springs, substantially as described.

Third, operating the sliding bars B, through the medium of the cranks and slotted plates, substantially as set forth.

No. 50,032.—HENRY REMICK, Portsmouth, N. H.—*Barber's Chair and Stool.*—September 19, 1865.—This invention consists of a combination of devices whereby the chair and stool can be folded for transportation, and the articles used by the barber can be compactly packed in the chair.

Claim.—First, the chair A, constructed with folding legs and with receptacles, substantially as above described.

Second, the stool P, constructed substantially as above described.

Third, the combination of the chair A and stool P, substantially as above shown.

Fourth, the rests from the feet W, constructed with an upholstered and a barred side, substantially as shown.

No 50,033.—G. ADOLPH RIEDEL, Philadelphia, Penn.—*Feed-water Apparatus.*—September 19, 1865; antedated May 11, 1865.—The object of this invention is to supply water to steam generators, and to do this automatically, so that the water shall be kept at uniform height. It consists in the combination of the receiver with the rod, operating for the purpose of feeding steam boilers with water.

Claim.—First, the vertical reciprocating receiver *c*, constructed, arranged, and operating substantially as described and for the purpose set forth.

Second, the combination of the rod I with the receiver, for the purpose of opening and closing the communication between the feed pipe and the pump or injector, substantially as described.

No. 50,034.—G. ADOLPH RIEDEL, Philadelphia, Penn.—*Automatic Boiler Feeder.*—September 19, 1865; antedated July 26, 1865.—The object of this invention is to feed steam generators automatically, and to keep the water at a uniform height. It also consists in the arrangement of the oscillating receiver, with the valves and lever.

Claim.—First, the oscillating receiver H, for opening and closing the communication between the feed-pipe and boiler, combined and arranged with the valves C F and L, substantially upon the principle and in the manner above set forth.

Second, the lever M, constructed substantially as described, and combined and arranged with the receiver H and valve L, as and for the purposes above set forth.

No. 50,035.—G. ADOLPH RIEDEL, Philadelphia, Penn.—*Automatic Boiler Feeder.*—September 19, 1865; antedated May 11, 1865.—The object of this invention is to supply steam generators with the requisite quantity of water by automatic action, dispensing with pumps and an injector; the novelty consists in the combination of the receiver, valves, pipes, and levers, with reference to the feed pipes and boiler.

Claim.—The combination and arrangement of the receiver C with the valves E E′, pipes B B′, and levers K K′, with reference to the feed-pipe and boiler, substantially upon the principle and in the manner herein set forth.

No. 50,036.—JOHN ROBERTSON, Brooklyn, N. Y.—*Machine for Manufacturing Sheet Lead.*—September 19, 1865.—In this machine a bed plate is arranged upon posts at a proper height for any width of sheets which it is desired to make, having a circular opening the circumference of which equals the length it is desired to make the sheet. Said bed plate, with its opening, also forms the female die, the lower part of the opening being slightly enlarged. A rod suspended from the top of the machine has an enlarged end which forms the male die, and is adjustable vertically by a nut and screw at the top so as to regulate the thickness of the sheet; the melted lead is forced downward between the dies by means of a ram having a plunger which works between the female die and the upper part of the male die. The lead when forced out being in tubular form, is cut open to form a sheet.

Claim.—The arrangement of the water cylinder, the ram, the adjustable dies, and the supporting and adjusting nut of the central bolt which carries the male die, substantially as herein described, whereby provision is made for forcing out the lead in a downward direction, and convenience is afforded for adjusting the dies to regulate the thickness.

No. 50,037.—PAUL ROESSLER, New Haven, Conn.—*Compass.*—September 19, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—A reversible socket, presenting at one end a steel point and at the other a pencil, substantially as and for the purposes specified.

No. 50,038.—CHRISTOPHER E. ROFFEE, Barrington, R. I.—*Cigar Wrapper.*—September 19, 1865.—This invention consists of an artificial wrapper for cigars, made by covering the common brown paper of commerce with a coating of paste made from tobacco.

Claim.—Making an artificial wrapper for cigars, by covering the common brown paper of commerce with a coating of paste made from tobacco, in the manner substantially as described.

No. 50,039.—HENRY ROSCOE, New York, N. Y.—*Composition for Refining and Hardening Steel.*—September 19, 1865.—This invention consists of chloride of potash, carbonate of soda, and borax. It is designed to restore steel destroyed by overheating, and prevent its cracking while hardening.

Claim.—First, the use of a composition consisting of chlorate of potash and carbonate of soda, for hardening and refining steel.

Second, the use of borax in connection with either chlorate of potash or carbonate of soda, or both combined.

No. 50,040.—CHARLES W. RUDGERS, Brecksville, Ohio.—*Fleece Folder.*—September 19, 1865.—This device is composed of a hinged head block and adjustable follower, in combination with suitable leaves, and with a strap and spring.

Claim.—The hinged head block D, and adjustable follower H, in combination with the leaves C, strap F, and spring B, or its equivalent, operating as and for the purpose set forth.

No. 50,041.—JOHN SEAMAN and WM. Y. HENDERSON, Andover, N. Y.—*Hand Loom.*—September 19, 1865.—In this invention the motion of both harness and shuttle depend upon the motion of the batten. A hooked gravitating rod, pivoted to the centre of the batten, at each stroke gives a quarter turn to a lantern-shaped cam on the treadle shaft-tappets upon which actuate the harness. Similar shaped lanterns, by means of a stationary spring, hook on the main frame, and are similarly turned at every stroke of the lay, and by means of a cam thereon their revolutions periodically actuate a powerful spring lever which imparts the blow to the shuttle.

Claim.—First, the drivers *t t'*, and cam disks *a2 a2'*, in combination with the lay L, and with the shutter of a loom, constructed and operating substantially as herein described.

Second, the method herein described of producing the motion of the heddles and that of the shuttle, by the action of the batten, as and for the purpose set forth.

No. 50,042.—G. A. SHERLOCK, New York, N. Y.—*Piano Stool.*—September 19, 1865.—This invention consists of a seat attached to a column that moves within another column, and graduated by racks on two sides and opposite each other. Into these racks work catches, turning upon fulcrum pins and hung by their inner ends upon a central rod so that the seat can be elevated or depressed by the central rod.

Claim.—Arranging the seat of a piano-forte stool upon its body in substantially the manner described and for the purpose specified.

Also, in combination with the above, the use of the guards *r r*, for the purpose explained.

No. 50,043.—NATHANIEL SILVESTER, Boston, Mass.—*Graduating Boot and Shoe Patterns.*—September 19, 1865.—This invention consists of a series of steps or graduators, the one raised above the other, and having their vertical edges at such a distance apart as to correspond to the different sizes of boots and shoes, and in combination with the above is a graduated scale with graduations, &c.

Claim.—First, the steps or graduators, constructed and arranged substantially as described, for the purpose of graduating boot and shoe patterns.

Second, the combination and arrangement of the arms A B, graduated scale C, and graduations *a b c d e f*, or their equivalents, substantially as set forth and for the purpose described.

No. 50,044.—AUGUSTUS and GEORGE SIMPSON, Woonsocket Falls, R. I.—*Spinning Jack.*—September 19, 1865.—The object of this invention is to secure a correct registry of the number of yards of yarn spun by devices not liable to be so tampered with by a dishonest operator as to register more than the amount actually spun. The arrangement is such that face plates prevent any interference with the correctness of the register, so that, although the slide rod may be raised and the index moved forward, yet the machine must complete a full revolution and impart the full measure of twist before the connection between the disk plate and worm screw can be broken.

Claim.—The disk wheel C and tappet F, in combination with a spring latch G, or their equivalents, arranged to operate substantially as described for the purposes specified.

No. 50,045.—D. Y. SMITH, Joliet, Ill.—*Auger Handle.*—September 19, 1865.—This invention consists in the manner of fastening the auger to the handle, which is by means of a revolving loose sleeve on the handle and having two opposite slots admitting the auger shank, which at its upper end is mortised on opposite sides, so that as the shank is passed through the sleeve and handle and the sleeve turned on the handle, it passes into the mortises on the shank a cam-shaped elevation on each side of the upper slot on the sleeve, by which means the auger is firmly held on the handle.

Claim.—In combination with the auger shank and head and the handle and slotted turning band, the cam swell or ledge margining the slot *d*, so as to compensate for and take up all the wear between the shank and its socket and hold the auger always tightly to its handle, substantially as described.

No. 50,046.—EDWARD SMITH, New York, N. Y.—*Means of Attaching Sheer Poles to Standing Rigging.*—September 19, 1865.—Sheer poles are usually lashed upon the rigging from shroud to shroud; by this means the dead-eyes are held from turning or swivelling; the improvement consists in the use of pegs or sockets through perforations in which the sheer poles run, thus avoiding the use of lashing.

Claim.—The attachment of the sheer pole to the lower part of each of the sockets B B which receive the shrouds by means of two links C C, one in each side of the socket, the said links being attached to the said socket by means of the joint pins *c c* which connect the said socket with the dead-eye, all substantially as herein described.

No. 50,047.—I. H. STONE, St. Louis, Mo.—*Baling Apparatus for Packing Tobacco.*—September 19, 1865.—In this invention square interstices between blocks or planks are filled with tobacco and a cover crowded down by a press of any kind and then secured by keys. One side of the case containing the moulds lets down, and the wood between the moulds is removed, piece by piece, to allow the moulded tobacco to be taken out.

Claim.—First, the retaining bars E, and keys *x*, for the purpose of holding the case together so it can be removed from the press as soon as the pressing operation is performed.

Second, the employment of the T-lever M, and the hinged props L, in connection with the posts L″, and hooks *i*, and plate *i′*, as and for the purpose set forth.

Third, the joint bolts *b*, when constructed and used as and for the purpose herein described.

No. 50,048.—T. L. STURTEVANT, Boston, Mass.—*Breech-loading Fire-arms.*—September 19, 1865.—In this invention the barrel which tilts or swings upon the stock by a pivot is raised at its rear end by the action of the trigger guard lever, which also by a spring catch moves backwards a sliding cartridge retractor, and allows the same to spring back into its place after the cartridge is withdrawn, and while the barrel is still raised.

Claim.—The combination for elevating the barrel and operating the cartridge-shell discharger, in manner as described, the same consisting of the lever D, the spring *h*, the stud *i*, and the spring latch *k*, the whole being arranged together substantially as set forth.

No. 50,049.—DAVID C. TAYLOR, Goshen, N. Y.—*Lubricating Compound.*—September 19, 1865.—This invention consists of a composition of oil, emery, and sulphur.

Claim.—A lubricating compound made of the ingredients herein set forth, and mixed together in the manner and about in the proportion specified.

No. 50,050.—D. N. THAYER, Mayville, N. Y.—*Snow Shovel.*—September 19, 1865.—In this invention across a straight wooden flat shovel, with a handle formed of the same piece, a cleat or guard is placed at right angles with the shovel. A place is excavated on the cleat for the hand, and covered on the lower side with a leather pocket to keep off the snow.

Claim.—First, a snow shovel which is provided with a guard C, extending transversely across its palm, and also a handle *c*, or its equivalent, substantially as described.

Second, in a shovel in which the handle and blade are on a straight line, and in the same piece, the hand protector *d* applied to the guard C, substantially as and for the purpose described.

No. 50,051.—W. W. TODD and JOHN VANDERCAR, Brooklyn, N. Y.—*Car Brake.*—September 19, 1865.—This invention consists in operating the brakes of railroad cars by means of segmental cogged plates, connected by rods or levers to either end of the car, and operated by the foot when desired.

Claim.—The segmental cogged plates A A′, operated by the foot at either or both ends of the car at the same time, by means of levers 1 2 3 4, arranged in the manner and for the purpose substantially as described and shown in the drawings.

No. 50,052.—J. P. TOSTEVIN, Racine, Wis.—*Cultivator.*—September 19, 1865.—This invention consists of a device for raising or lowering the machinery to any desired height by means of a lever and segments at each end of the frame; and further in attaching the plough and standards to the cultivator frame by means of a T-shaped screw passing through a slot in the said standards and having a nut on the rear ends for the purpose of adjusting the same. The tongue is attached to the frame and the front end adjusted by means of a set screw and screw bolt, whereby it can be raised or lowered at pleasure.

Claim.—First, the combination and arrangement of the tongue A, when extending back and joined to the cross piece C, substantially as shown, the bolts J J, the set screw K, and frame B, when constructed and operating substantially as and for the purposes set forth.

Second, the combination and arrangement of the cross piece C, provided with the slot *a*, the T-bolt H, plough standard E, provided with the slot *b*, base F, and rod D, when operating substantially as described.

Third, the combination and arrangement of the cogged sectors N and O with the wheel and frame of the cultivator, when operating substantially as herein specified.

Fourth, the combination and arrangement of the lever L, slide rod U, notched standard R, shaft X, and sector N, when constructed and operating substantially as and for the purposes herein set forth.

No. 50,053.—C. W. TREMAIN, Memphis, Tenn.—*Valve of Steam Engines.*—September 19, 1865.—The object of this invention is to equalize the pressure of steam on the valve, so that it may operate freely; it consists in the arrangement of grooves, projections, rings, induction pipes, and openings throughout the length of the cylindrical valve.

Claim.—First, the cylindrical steam chest H, with grooves or pipes A partly encircling it, the same forming steam passages to the cylinder, substantially as described.

Second, in combination with the grooves A, the projections B B which cover them, said projections forming seats for the valves or rings R, and being perforated with numerous diagonal holes for the passage of steam, substantially as described.

Third, in cylindrical valves which have reciprocating motions in their chests, making openings throughout their length to permit steam or other fluids to pass to that end of the chest which is furthest from the induction passage I, substantially as described.

No. 50,054.—L. W. TURNER, Meriden, Conn.—*Flour Sifter.*—September 19, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—As a new article of manufacture, a flour sifter, composed of a suitable case, a conical sieve and a revolving frame, when the frame is composed of spirally fitted blades, and a brush or brushes, and the whole is fitted for use substantially as herein described.

No. 50,055.—FRANCIS UHRLAND, Buffalo, N. Y.—*Beer Cooler.*—September 19, 1865.—This invention consists of two cylindrical boxes communicating with each other by means of tubes. A tube passes through the centre of the box and is attached to the lower box. The liquid to be cooled is poured in the pipe and passes into one box, from thence it passes to another box through tubes, and then escapes through a pipe.

Claim.—First, a beer cooler, with an adjustable cover, substantially as and for the purposes herein described.

Second, the main tube E, and the cover A, in combination with tubes or pipes D D D D, heads B and C, substantially as and for the purpose herein set forth.

No. 50,056.—GARDINER WATERS, Cincinnati, Ohio.—*Beer Cooler.*—September 19, 1865.—This invention consists of two cylindrical boxes communicating with each other by means of pipes, and arranged so as to revolve in the vessel, through which a current of air is made to circulate. The liquid to be cooled flows in, and, after passing through the boxes and pipes, escapes through another pipe.

Claim.—The cooling of beer or other liquids, by passing the same continuously through a cooling medium, or, vice versa, the cooling medium through the beer, by means of the rotating lantern cylinder B, or its equivalent, and the outer case A, combined and arranged for the purpose substantially as herein specified.

No. 50,057.—FITCH WEED, Middleboro', Mass.—*Shoe.*—September 19, 1865.—This invention consists of a back piece inserted between and sewed to each of the quarters of the upper, and extending from the top down to the heel of the sole.

Claim.—A shoe as made with the back piece *e* inserted between and sewed to each of the quarters *a a* of the upper, and running from the top down to the heel of the sole, substantially as hereinbefore specified.

No. 50,058.—C. S. WELLS.—Chicopee, Mass.—*Instrument for Cancelling Postage and Revenue Stamps.*—September 19, 1865.—The nature of this invention is explained by the claim. This device is composed of a tube provided with a spiral groove or slot, and a cutter at its lower end. In the said groove is fitted a lateral pin attached to a rod, and the parts are placed within a case so as to constitute a gauge to rest firmly on the paper and remaining stationary while the cutter turns within it; in connection with the above is a spring, by which the device is made to cancel stamps without injury to the paper to which they are attached.

Claim.—The tube D, provided with a spiral groove or slot *d*, and having a cutter *e* at its lower end, in combination with the rod C, provided with a lateral pin *c*, fitted in the groove or slot *d* of the tube D, the above parts being within a case A, which constitute a gauge resting firmly on the paper and remaining stationary, while the cutter turns within it, and all arranged in connection with a spring E, to operate in manner substantially as and for the purpose herein set forth.

No. 50,059.—J. H. WHITFIELD, Buffalo, N. Y.—*Trunk.*—September 19, 1865; antedated September 15, 1865.—This invention consists in the arrangement of a double trunk with a bed or portable cot opening in front, the cot being made of iron and wooden bars in sections with stays and folding legs, and the upper lid being used as a shelter for the sleeper's head.

Claim.—A double trunk opening front and back, with the cot opening in front, the cot having double bars D and E of wood and iron, stays I at their joints, and folding legs L, with hooked stays M, and the lid B, as a rest or place for the pillow and shelter for the head, when arranged and combined as herein described, and for the purposes set forth.

No. 50,060.—H. C. WHITNEY, Coxsackie, N. Y.—*Horse Rake.*—September 19, 1865.—This invention relates to means for operating the rake, and consists in the combination of the several parts identified by the claim, and will be fully understood by reference to the same and the engraving.

Claim.—The combination of the revolving rake head *g*, lever *k*, forks *l l*, and projections or cams *i*, with the arms *f*, and lever *s*, substantially as specified.

No. 50,061.—STEPHEN WILCOX, Jr., Westerly, R. I.—*Air Engine.*—September 19, 1865; antedated September 9, 1865.—The nature and object of this invention are explained by the claim.

Claim.—First, automatically regulating the proportions of air passing over and through the fire, by the variations in the pressure of the air, substantially in the manner and for the purpose herein set forth,

Second, causing the induction valve I to act as a variable throttle valve while maintain-

ing a uniform or nearly uniform point of cut-off, substantially in the manner and for the purpose herein set forth.

Third, mounting the safety valve *o*, on the compressing piston *a*2 of a hot air engine, substantially as and for the purpose herein set forth.

Fourth, constructing the cylinder A or pump *a'*, or both, of sheet metal, in the manner and for the purpose herein set forth.

Fifth, in connection with the last, the ventilated jacket or protection A3, constructed and arranged substantially in the manner herein set forth.

Sixth, the within described arrangement of the bonnet Q, and the valves F and G, with their seats and passages cast on the cylinder, and arranged substantially in the manner and for the purposes herein set forth.

No. 50,062.—STEPHEN WILCOX, Jr., Westerly, R. I.—*Hot-air Engine.*—September 19, 1865.—This invention consists in the arrangement of devices for urging in the hydrocarbon fluid, so as to neutralize the effect thereon of the pressure obtaining in the furnace, and for regulating the admission of the same to the furnace, as the pressure fluctuates, so as to vary the amount admitted, as the pressure becomes greater or less. It further consists in the arrangement for transmitting heat downward from the flame to the hydrocarbon contained in the lower portion of the burner, so as to evaporate more or less in proportion, as more or less is contained in the evaporating pan. Arrangements are also made for regulating the escape of vapor into the furnace, according as the speed of the engine varies, and for regulating the area of the discharge passages for the vapor, immediately at the orifice where the jets escape, so as to jet large or small quantities with uniform force.

Claim.—First, the pipe 3, connecting the interior of the furnace B with the upper portion of the reservoir 1, for the purposes herein set forth.

Second, the loaded piston *t*, in combination with the cock 4, adapted to regulate the area or the orifice in the cock 4, through which the petroleum flows from the reservoir 1, to the furnace B, according to the fluctuations of pressure obtaining in the furnace B, substantially as and for the purpose herein set forth.

Third, the arrangement of the heat-conducting spurs 13, burner 9, and evaporator 12, substantially as and for the purposes herein set forth.

Fourth, connecting and combining the fly-ball or equivalent speed governor R with the piston 11, or its equivalent, for controlling the issue of hydrocarbon vapor into the furnace of an air-engine, substantially as and for the purpose herein specified.

Fifth, in combination with an air-engine adapted for the use of hydrocarbon vapor in the manner substantially as specified, the jet-holes 10, and one or more pistons or stops 11, arranged immediately adjacent thereto, so as to jet with the full velocity, even when partly closed, all substantially as and for the purposes herein set forth.

Sixth, the employment in an air-engine of an elevated reservoir 1, evaporating device 12, and a regulating device 11, acting on the hydrocarbon after its change to the vaporous form, the several parts being arranged to operate together substantially in the manner and for the purposes described.

Seventh, the arrangement of the vapor burner 9, metallic globe 14, fresh-air passages 20, and jets 10, relatively to each other and to the evaporating pan 12, or its equivalent, adapted to receive heat from the metallic globe 14, substantially in the manner and for the purposes herein set forth.

No. 50,063.—J. A. and G. E. WOODBURY, East Cambridge, Mass.—*Bottle Stopper.*—September 19, 1865.—This invention consists of a flat ring, to which is hinged a disk. To the lower side of the disk is attached a piece of rubber, which serves as a packing. The ring is attached to the bottle by means of a wire, and the disk is secured when the bottle is closed by means of a hasp.

Claim.—First, the hinged disk B, provided with the packing *e*, and hasp C, or their equivalents, in combination with the wire F, applied to the mouth and neck of a bottle, substantially as and for the purpose described.

Second, the fixed ring or seat M, provided with lugs *n n*, projection *h*, and packing *e*, and hinged to the disk B, substantially as set forth and for the purpose described.

Third, forming of the twisted ends *h* of the wire F a catch for the hasp C, substantially as described.

No. 50,064.—EBER WOODRUFF, Chicago, Ill.—*Seat for Water Closets.*—September 19, 1865.—In this invention an annular seat is hinged at the back of the opening, beneath which is a disk which sets close over the hole. The said disk is divided into two equal parts, each part being pivoted in the rear. Connected with the hinge of the annular seat, before and behind is a spur that, before separating the two halves of the disk and uncovering the hole, as the annular seat is let down, the spurs behind and beyond their respective pivots pass between prolongations, and force the disks together over the hole, as the annular seat is lifted up.

Claim.—First, the combination and arrangement of the hinged seat D, and pivoted cover C C, when operating substantially as and for the purposes specified.

Second, the combination and arrangement of the hinged seat D, and pivoted cover C C and wedge-shape pieces I and J, when arranged and operated substantially as and for the purposes herein described.

No. 50,065.—ALPHEUS BUGBEE, assignor to himself and ANDREW J. FOSTER, Elkhart, Ind.—*Seed Planter.*—September 19, 1865.—In this invention the draught axle passes through the hopper, and, by toothed wheels, agitates the seed in it. A cam on the axle gives motion to a short lever that operates stirrers on a V-shaped additional hopper placed in front of the first one. The drag bar, composed of two pieces of wrought-iron, embraces the head of the drill tooth.

Claim.—First, the construction and combination of the spurs F with the carriage axle or single shaft B, to operate the seeding slide and agitate the grain, as herein described.

Second, suspending the teeth C, at their back side, to the rear ends of the arms I, as described.

Third, the arrangement, construction, and combination of the plates U with their vibrating bar W, operating in a slotted V-shaped hopper S, as herein described, for the purpose of sowing grass seeds.

No. 50,066.—WM. F. COCHRANE, assignor to himself and B. F. WARDER and J. C. CHILD, Springfield, Ohio.—*Harvester Rake.*—September 19, 1865.—In this machine the arm is made of an arched or goose-neck form and has both a vertical and horizontal turning movement on its pivot, and is used in connection with a guide slot and switch latch, in combination with the mechanism for driving the rake.

Claim.—First, the combination of the goose-neck or arched rake arm, having both a vertical and horizontal turning movement on its pivot, with the guide slot and switch latch, substantially in the manner and for the purposes described.

Second, the combination of the guide slot, the switch, and the goose-necked vibrating sweep rake with the mechanism for driving said rake, when arranged and operating substantially as and for the purposes set forth.

Third, the combination of the rake head, swivel ring, and adjusting washers, arranged and operating as described.

No. 50,067.—SAMUEL P. FAUGHT, Foxboro', Mass., assignor to himself and WILLIAM T. COOK, Boston, Mass.—*Paint Brush.*—September 19, 1865.—This invention consists of a double socket provided with a partition in combination with a conical wedge and screw, by which arrangement the bristles are held firmly in place, and without the shrinkage of the handle.

Claim.—The double socket A, provided with a partition *a*, in combination with the conical wedge D and screw *e*, substantially as set forth.

No. 50,068.—DARWIN P. FLINN, Geneva, N. Y., assignor to W. S. MILLER, New York, N. Y.—*Paint Compound.*—September 19, 1865.—This invention consists of white oxide of zinc, fresh slacked lime, resin, milk, and linseed oil.

Claim.—A paint composed of oxide of zinc, lime, resin, linseed oil, and milk, in about the proportions herein specified.

No. 50,069.—N. F. GOODRICH, Meriden, Conn., assignor to himself and ISAAC L. HOLMES, Haydenville, Mass.—*Heat Radiator for Stove Pipes.*—September 19, 1865.—This invention is designed as an improvement on a patent granted J. L. Holmes, August 30, 1864, and consists in joining two cone-shaped chambers, by means of a series of tubes, arranged in a circle. In the centre a larger tube is placed, and in the top of the tube is a damper, and in the top of the upper conical chamber is another damper.

Claim.—The central pipe C, provided with a damper D, in combination with the pipes B, and chambers A A, all arranged substantially as and for the purpose specified.

No. 50,070.—ISAAC GREGG, assignor to ISAAC GREGG, Jr., Philadelphia, Penn.—*Brick Machine.*—September 19, 1865.—This invention consists in starting successively the respective sets of brick moulds, just before they are elevated by the lifting lever which discharges the bricks, from the particular set of moulds; in directing the clay passing into the hopper, exclusively to the particular cutters; in the arrangement of steam heating chambers, combined with the usual repressure plates; in giving alternate motion to the two lubricating sweeps of the machine, and in the arrangement of certain devices for tightening or loosening the driving band.

Claim.—First, starting the pistons or followers of the moulds, together with their contained bricks, separately or in succession, by means of the inclines B B′, or their equivalents, acting upon the stems *a* of the said pistons, substantially in the manner described, for the purpose of saving power and relieving the lifting levers of the said brick machine from the great strain consequent upon their starting, and lifting, as heretofore, the whole of one set of the pistons and bricks at one operation.

Second, periodically changing the direction of the current of clay in the hopper from the

set of filled moulds to the set of empty ones under the hopper by means of the moving partition *c'*, or its equivalent, operating substantially in the manner described, for the purposes specified.

Third, the arrangement of the steam-heating chambers D D, in combination with the plates *d2 d2*, near the ends of the hopper C, substantially as and for the purposes described.

Fourth, giving the described alternating motions forward and backward to the two lubricating sweeps or mould clearers E E' by means of the divided rock shafts M M' and pinions *m2 m3*, or their equivalents, arranged to operate the said sweeps or mould clearers, as and for the purpose described.

Fifth, controlling or starting or stopping the machine at will, by means of the apparatus consisting of the hand wheel H, rollers K and *o*, ratchet wheel K', pawl K2, treadle N, and cord P, supported in a suitable frame L, and connected with the friction roller G, by means of the cords P *p*, or their equivalents, so as to operate substantially as described and set forth.

No. 50,071.—MARCUS L. HORTON, Claremont, N. H., assignor to SIDNEY SMITH, Greenfield, Mass.—*Cooking Stove.*—September 19, 1865.—Through a passage in the front part of the stove, and of equal width, air flows from near the floor up into tubular grate bars, and thence into the oven; through an aperture in the rear of the oven, or another in the top, it may thence be conducted to the exit pipe, or to heat other apartments. Dampers are provided for the apertures in the oven.

Claim.—The open space D, and apparatus and register A, as arranged and in combination, operating as described and for the purposes set forth.

No. 50,072.—MARCUS L. HORTON, Claremont, N. H., assignor to SIDNEY SMITH, Greenfield, Mass.—*Cooking Stove.*—September 19, 1865.—Nearly through the centre of the back part of the stove is a broad pipe into which air and the products of combustion flow, and thence through it up into an elevated oven, where its mouth is covered by a conical cap.

Claim.—The pipe E with cap A, and improved flue C, as arranged and in combination, operating as described and for the purposes set forth.

No. 50,073.—ZEBULON HUNT, Hudson, N. Y., assignor to himself and WM. J. MILLER.—*Coal Stove.*—September 19, 1865.—In this invention the flue pipe at the back of the stove is divided by a vertical partition, so that when the damper in the direct draught is closed, the products of combustion circulate down one side of the flue around and above the top of the ash chamber, and thence up through the other side of the flue to the exit pipe. Around the bottom of the basket grate is a flue passage, to which external air is admitted by a bridge flue connecting with perforations in front of the stove; the air thence circulates through an aperture in the ash pit, and to the bottom of the fire grate.

Claim.—First, the double flue D D', in combination with the circular hot-air chamber or flue F, when both are constructed and arranged in manner and for the purpose set forth.

Second, the bridge flue H, in combination with the circular flue G, when arranged substantially as and for the purpose set forth.

No. 50,074.—J. H. JELLISON, assignor to C. and J. R. PIERCE & Co., Milford, Mass.—*Machine for Shaping Crimping Forms.*—September 19, 1865.—This invention consists of a rotary cutter wheel, mounted on the top of a vertical shaft, extending through a bearing supported by a table. Said cutter head contains two cutter throats, and can be raised or lowered by means of a cranked wheel. An endless belt, passing round a drum fixed on the shaft, imparts a rotary movement to the shaft and its cutter head. The crimping form is placed on the table-top, under the action of the cutter wheel.

Claim.—The combination and arrangement of the rotary cutter wheel A, and its shaft, with the mechanism, substantially as described, for moving such cutter head vertically, either slowly or suddenly, as may be required, the whole being applied to a table, as explained.

Also, the combination of the rotary cutter wheel, its shaft, the mechanism for moving the wheel vertically, as set forth, and the two carriers E and F, made substantially as specified.

No. 50,075.—HUGH L. MCAVOY, assignor to himself and E. S. HUTCHINSON, Baltimore, Md.—*Gas Burner.*—September 19, 1865.—This invention consists in making three or more slits in the gas burner for the emission of the gas.

Claim.—The gas burner, provided, as described, with three or more parallel or nearly parallel slits.

No. 50,076.—HUGH L. MCAVOY, assignor to himself and E. S. HUTCHINSON, Baltimore, Md.—*Apparatus for Carburetting Air.*—September 19, 1865.—This invention consists of a metallic vessel divided into two compartments, the upper compartment containing a regulator and reservoir, and the lower compartment containing the air-forcing apparatus. The regulator consists of an inverted vessel having a cylindrical exterior, and an inner frustum-shaped wall. To the top of said regulator is attached a chain connected with a rod, which is provided with a valve. The reservoir is filled with hydro-carbon liquid, and supplies the lower

chamber by means of a pipe and float. The upper part of the chamber communicates with the air wheel by means of a pipe, and is supplied with air through an opening, which is controlled by a valve. The air wheel is operated by means of gearing connected with the shaft, which passes through the vessel above the level of the liquid contained in the lower compartment.

Claim.—First, the described gearing and shafting by which the motor shaft O is connected with the forcing wheel shaft F, through a point in the side of the chamber above the fluid level.

Second, the air pipe R, which supplies the air to wheel from the chamber in which the regulator operates.

Third, the described form of regulator enclosing an air space between a cylinder and conical frustum, and whose sectional area of displacement is increased as it sinks in the fluid.

Fourth, the automatic valve *d*, in combination with the chamber A, pipe *c*, and supply pipe R.

Fifth, the valve I, suspended from the regulator and controlling the lower orifice of the pipe H, which supplies carburetted air to the regulator.

Sixth, the reservoir Y, situated above the gas-generating chamber, and communicating therewith by the pipe Z, guarded by the valve float in the chamber D.

Seventh, the combination of the upper reservoir Y, chamber A, and regulator B C, with the lower chamber D and air-forcing wheel E, communicating with each other by the passages for fluid, air, and carburetted air, substantially as described.

No. 50,077.—THOMAS MOORE, Cornwall, Conn., assignor to JOHN ELLERBY, New York, N. Y.—*Apparatus for Purifying Kaolin, &c.*—September 19, 1865.—This invention consists of a frame supporting a strake, inclined toward and communicating with the basin. The basin communicates with a launder, which has openings into the drag. In the drag are arranged the flood-gates, and at the end the drags communicate with a launder through flood-gates; this launder communicates with the receivers through a vertical spout or tube, extending nearly to the bottom of the receiver.

Claim.—First, passing the mineral to be dressed, in connection with a current or currents of water, or other suitable liquid, through a drag or drags, or their equivalents, having a series of one or more flood-gates arranged in such a manner as to be opened and closed at pleasure, by means of which gates the said passage of the water with the mineral can be regulated according as may be necessary, substantially as herein described.

Second, delivering the mineral, after having been dressed, in any proper manner, to one or more suitable receivers or tanks, at or near the bottom thereof, substantially as and for the purpose specified.

Third, removing the clay from the receivers of the cleansing or dressing apparatus, through any suitable opening or openings in the bottom of the same, substantially as set forth.

No. 50,078.—LEVEN C. PERCIVAL, assignor to himself and E. H. DEEMER, Philadelphia, Penn.—*Rocking Horse.*—September 19, 1865.—This invention consists in the steering devices for guiding the carriage in any desired direction, and also in the use of frames connected in such a manner to the carriage that its wheels can be lifted from the ground, and thus the propulsion of the carriage prevented as the horse is rocked.

Claim.—First, the hobby-horse, constructed substantially as denoted--that is to say, supported underneath by a pivoted attachment to a standard erected on the wheeled platform, the hind feet attached to the crank on the rear axle, while the forward parts are left free, substantially as described.

Second, the guiding bridle-line connecting from the bit to a place near the pivoted point of the horse, and from thence with the forward axle, as described.

Third, the use of the swinging frame *x x*, for lifting the platform, arranged as described, and for the purpose specified.

No. 50,079.—D. H. PRIEST, assignor to himself and B. S. HARRINGTON, Boston, Mass.—*Leather Roller.*—September 19, 1865.—This invention relates to a machine for rolling hides or leather, and consists of a table adjusted so as to rise and fall with the various depths of skin. The table is secured in its place by bearings; a feed roller is let into the table, another roller above being turned by a crank, when the hides are rolled of sufficient size and secured by strings to pack in the most convenient manner.

Claim.—First, so applying the adjustable table as to allow it to rise and fall automatically with the various depths of skin about the roller or shaft.

Second, the combination of the toggles and the levers with the adjustable bed, provided with a feeding roller and the winding roller or shaft.

No. 50,080.—FRANCOIS DURAND, assignor to E. P. H. GONDONIN, Paris, France.—*Cotton Gin.*—September 19, 1865.—In this invention the ginning roller is provided upon its surface with oblique parallel grooves. This roller works in concert with a smooth roller, which is covered with a sheet of parchment, one end of the same being attached to the roller throughout its whole length, and the other end being free. The invention is designed as an improvement on a previous patent to the same inventor.

Claim.—First, the combined operation and arrangement of the two ginning rollers *i* and *i'*, the surface of the roller *i* of which is provided with a series of inclined annular or endless elliptical corrugations or grooves, situated parallel to each other, and the surface of the other roller *i* being smooth, the said corrugated or grooved roller acting in combination with the smooth ginning roller *i'*, provided with a slip of parchment, substantially in the manner and for the purposes set forth.

Second, in combination with the rollers *i i'*, the general arrangement and combination of the parts acting in concert therewith, substantially as described and illustrated in the annexed drawings, and for the purposes set forth.

No. 50,081.—FRANCIS REID, Liverpool, England.—*Process of Collecting Spirit During the Refining of Sugar.*—September 19, 1865; antedated June 21, 1865.—This invention consists in placing a condenser between the vacuum pan and the air pump, so as to condense any alcoholic spirit which may have formed in the sugar, molasses, concrete, or other impure sugar, during transportation or storage.

Claim.—Solely the collecting and saving of such spirit or alcohol as may be generated and thrown off during the process of boiling or refining raw sugars, concrete, melado, and molasses, substantially in the manner and for the purposes hereinbefore described and set forth.

No. 50,082.—J. J. REVY, Vienna, Austria.—*Manufacture of Gun Cotton.*—September 19, 1865.—This invention consists in forming the cotton into bundles of tightly twisted yarn, after which it is washed in a weak alkaline solution, and afterwards in running water; it is then dried and steeped in the acid mixture, which is contained in the compartment in the tank. The tank is kept cool by a constant flow of water maintained through the outer vessel. The compartment contains the store of acid mixture, and another compartment the acid in which the cotton is to be dipped, and another the cotton after being dipped. The cotton, after being treated with the acids, is placed upon a perforated shelf and allowed to drain, when it is thrown into another proper compartment. The acid in one compartment is absorbed by the cotton, and after each dipping a portion from another compartment is poured into a third compartment; the cotton is pressed down in the pots by means of a perforated disk, so that the acid it has absorbed shall completely cover it, and the jars set in a cool place for forty-eight hours. The cotton is then taken out, drained in a centrifugal machine, and washed in running water. It is then boiled in a weak solution of silicate of potash, after which it is packed and washed, dried and put away.

Claim.—An explosive compound, made substantially in the manner and for the purposes described.

No. 50,083.—J. J. REVY, No. 28 Grosvenor street, Eaton square, England.—*Manufacture of Gun Cotton.*—September 19, 1865.—This invention consists in first spinning ordinary cotton into a tightly twisted yarn, after which it is washed in running water for forty-eight hours. The cotton is then dried and subjected to the action of a mixture of nitric acid of a specific gravity not less than 1.52, and sulphuric of specific gravity not under 1.84, the acids being mixed twenty-four hours before they are ready for use. The cotton is exposed to the action of the acids for forty-eight hours; the mixture is then poured off and the cotton placed in a centrifugal machine to throw off the acid mixture; the cotton is then washed as at first, and dried, and boiled in a weak solution of silicate of potassa; it is then washed again and dried, and ready for use.

Claim.—First, the preparing the cotton for use in the manufacture of gun cotton, by washing it in an alkaline solution.

Second, the process of dipping or steeping the cotton, as hereinbefore set forth, small and regular quantities of the cotton being dipped, one after the other, in a dripping vessel containing a considerable quantity of acid, the contents of which are, after each operation, brought back to the proper strength by the addition of fresh acid, to compensate for that removed by the portion of cotton last dipped.

Third, the general arrangement of the apparatus hereinbefore described and shown in the annexed drawings.

Fourth, the separating the acid from the exterior of the gun cotton fibre by saturating the cotton with water and then again extracting this water by means of a centrifugal machine. Also the separation of the acid from the interior of the gun cotton fibre by arranging the cotton in layers on suitable perforated shelves and causing water to filter or percolate through it.

Fifth, the treating gun cotton with water glass by means of a centrifugal machine, as hereinbefore described.

Sixth, the employment, for treating gun cotton, of water glass solution, in a cool in place of in a boiling state, as heretofore.

No. 50,084.—CHARLES SANDERSON, Sheffield, England.—*Mode of Making Bars, Shafts, and other articles composed of Iron or Steel.*—September 19, 1865.—This invention consists in placing a bloom of ordinary iron in the centre of a cast-iron or other mould, leaving a space between the mould and bloom, into which space molten steel is poured. This forms a mass,

having a wrought-iron core, and surrounded by steel, and can be made into bars, shafts, &c., in the usual manner.

Claim.—The manufacture of railway bars, shafts, girders, ship plates, boiler and bridge plates, and other articles, from masses of wrought iron and cast steel, or of wrought iron and homogeneous iron or steel, (made by and known as the Bessemer or pneumatic process,) and the uniting of large masses of the above metals, in which the combination is effected, in the manner herein described.

No. 50,085.—THOMAS BYRNE, New York, N. Y.—*Apparatus for Preserving Beer and other Liquids.*—September 19, 1865.—This invention consists in the use of a flexible bag of India-rubber or other material, provided with a faucet. The bag is filled with the desired liquid and placed in a box; the liquid may be pressed out by means of weights if desired. The beer or other liquid in the bag is thus prevented from coming in contact with the air.

Claim.—First, the preservation of liquids or liquors on draught, substantially as and for the purpose herein set forth.

Second, the application of a flexible vessel for containing, and from which to serve, liquors on draught, substantially as described.

No. 50,086.—E. HINKLEY and G. W. CROWELL, Cleveland, Ohio.—*Chimney Cap.*—September 19, 1865.—This invention consists of a cap balanced at its apex upon a vertical support and held in place by a link. A plate is fitted to the chimney-top to which the other parts are attached, all acting in combination.

Claim.—The cap A, the standard D and link *b*, in combination with the plate C, the several parts being constructed and arranged as and for the purpose herein set forth.

No. 50,087.—JOHN ALLEN, M. D., Washington, D. C.—*Keeping Oil Cool in Lamps.*—September 26, 1865.—This invention consists in surrounding the reservoir of the lamp with water to keep the contents cool.

Claim.—The placing of water on the top or around the reservoir A, as herein described, and for the purpose set forth.

No. 50,088.—J. J. ALVORD, Tecumseh, Michigan.—*Brick Press.*—September 26, 1865.—This invention consists of a screw with spiral flanges of concave form. The screw is placed directly under the cylinder which forms the case of the mud-mill, and a jointer having its face side of a concave form is fitted between the cylinder and the bed-piece, and secured by a spring.

Claim.—First, in combination with a rotary mould cylinder M, a screw or angle L, having the face side of its spiral flange *f* of concave form, substantially as and for the purpose specified.

Second, the placing of the screw or auger L directly under the cylinder D, which forms the case or box of the mud wheel so that the tempered clay will be forced direct from the mud-mill into the box C which contains the screw or auger, as described.

Third, the joints T, in combination with the mould cylinder M, and the spring U, or its equivalent, substantially as and for the purpose set forth.

No. 50,089.—FRANK M. BACON, Ripon, Wis.—*Cotton Bed Planter.*—September 26, 1865.—This invention consists in furnishing the central movable hopper shaft with arms at right angles to it, the arms being furnished with pendent stirrers working between small uprights in the hopper. An adjustable regulator closes the opening for the seed in a greater or less degree.

Claim.—First, a horizontal hopper, with a central discharge opening, in combination with the stirrers or agitators, actuated substantially as specified.

Second, the adjustable regulator *o*, or the shaft *i*, in combination with the hopper *m* and agitators, for the purpose and substantially as specified.

No. 50,090.—PHINEAS BALL, Worcester, Mass.—*Pipe Joint.*—September 26, 1865.—In this invention two hinged collars are bolted fast, one around each pipe a little distance from the end. A thin metal band, the ends of which are confined to each other by screws, surrounds the joint, fitting closely upon either side against the collars, and is held a little off from the pipe to leave a space for the introduction of cement by means of flanges and pins projecting from the inner side of the two collars.

Claim.—First, the combination with the end of the pipe R R of the hinged guide clamps A A.

Second, the combination with the clamps A A of the flanges *f f*, and pins *d d*, substantially as and for the purposes set forth.

Third, the combination with the bottom of the clamps A A of the supporting pins *e e*, for sustaining the lower half of the sleeve while being filled, as described.

Fourth, the combination with the overlapping parts P and S of the ears *g g* and screws *x x*, for the purposes set forth.

No. 50,091.—JOSEPH BARNETT, Dayton, Ohio.—*Step Ladder.*—September 26, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The employment of the strips *a a* and *e e*, in connection with the side piece A A, and arranged with the slotted bar *d*, and eyes C C, the several parts being used as and for the purpose herein set forth.

No. 50,092.—LOUIS BRAWER, Memphis, Tenn.—*Hydrometric Apparatus* —September 26, 1865; antedated September 18, 1865.—This invention consists of a cylindrical case connected to the worm of a condensing apparatus by means of a pipe terminating in a chute which directs the spirit upon the buckets of an overshot wheel. This wheel turns on a shaft which has affixed to it a ratchet wheel, the teeth of which are acted upon by a pawl which prevents the wheel from turning backward, and also serves to indicate when the wheel is rotating by the noise it makes. The shaft has a crank keyed to it at one end, which crank is connected to a slide operating the registering devices. At the lower part of the case is a tube closed at its lower end and provided with a pipe; within said tube a float is suspended by a curved arm, controlling the testing mechanism or device by the strength of the flowing liquor.

Claim.—First, registering the quantity of high-wine as it flows from the cooler of a distilling apparatus, by means of an apparatus which is so contracted that the registering mechanism thereof will be automatically controlled by the strength of the flowing liquor, so as to be stopped when the liquor is below proof and started again by liquor above, substantially as described.

Second, providing the case A A with an inlet pipe *a a* leading to a cooler of a still, a pipe G for receiving the buoy J, and a discharge pipe H for conducting the liquor from the apparatus, substantially as described.

Third, providing the wheel B with one or more projections *p*, in combination with a buoy or float J, operating *g*, substantially as described.

Fourth, the combination of an alarm wheel *b*, or its equivalent, with the wheel B which actuates a mechanism for registering gallons and barrels, substantially as described.

Fifth, automatically controlling the testing mechanism or device by the strength of the flowing liquor, substantially as set forth.

No. 50,093.—WILLIAM J. BURTON, Turtle, Wis.—*Cultivator.*—September 26, 1865.—In this invention a straight frame carrying teeth to cultivate two or three rows, runs at each end upon two bows or shoes affixed near the outside teeth; thus doing away with wheels entirely.

Claim.—The bows C C—this broadly—the whole arranged as and for the purpose described and set forth.

No. 50,094.—JESSE BYRKIT, Fairfield, Iowa.—*Hand Spinning Machine.*—September 26, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, in hand spinning machines placing the main driving wheel outside the frame, and the intermediate wheel B beneath the bed of the frame, so that neither wheel shall interfere with the run of the carriage up to the driving end, substantially as shown, thereby enabling one to shorten the bench, and to run the carriage to the driving end.

Second, in hand spinning machines so placing the crank or driving wheel and the treadle for running the carriage in and out that the spinner can sit behind the end of the machine while at work, substantially as described.

Third, in hand spinning machines providing a box at the outer end of the bench to receive the carriage, substantially as described.

No. 50,095.—HIBBARD CHRISTIAN, New York, N. Y.—*Curling Iron.*—September 26, 1865.—In this invention the curling iron is hollow, having but one opening, on which is a water-tight cap for holding water.

Claim.—A hollow curling tube adapted to receive and retain a supply of hot water as a heating medium, substantially as set forth.

No. 50,096.—SELAH H. CLARK, Philadelphia, Penn.—*Skate.*—September 26, 1865.—This invention consists of a runner and certain foot-pieces which can be attached to and detached from the said runner, so that the skate may be carried in detached pieces in the coat pocket.

Claim.—The within described skate, composed of the runner A and detachable foot-piece B and B′, the whole being constructed and arranged substantially as and for the purpose herein set forth.

No. 50,097.—THOMAS A. COLLINS, JOSIAH D. EVANS and THOMAS J. SMEDLEY, Smyrna, Del.—*Machine for Making Drain Tiles.*—September 26, 1865.—This machine is provided with two plungers operating in separate chambers which communicate with the mixing box, the plungers being put in motion by a double crank shaft; the arms are cast separately, each with its distinct hub.

Claim.—First, the use in a tile machine of two plungers, each operating in a separate cham-

ber which communicates with the mixing box, said plunger being applied in combination with a double crank, substantially as and for the purpose set forth.

Second, casting the arms of the mixer separate, each with its distinct hub, substantially as and for the purpose described.

No. 50,098.—WILLIAM CONNER, Wilmington, Del.—*Sash Supporter.*—September 26, 1865.—This invention consists in providing a wedge-shaped box in which is placed a friction wedge with a piece of gum elastic set in its face, which is suspended or kept in place by means of a spring. This box with the friction wedge is placed parallel to the sash so as to give it play.

Claim.—Constructing or arranging a sash supporter composed of a friction wedge and spring set in a box of corresponding shape with the friction wedge, parallel to and pressing against the edge side of the sash frame, rising upward therefrom in the manner herein set forth, so that by pressing the arm or thumb rest of the friction wedge the sash is raised with ease, and upon a removal of the pressure from said arm or thumb rest the sash is held at the height raised.

No. 50,099.—DANIEL G. COPPIN, Cincinnati, Ohio.—*Shutter Hinge.*—September 26, 1865.—In this invention the pintle springs from the horizontal surface of a projecting portion of the lower leaf, upon which surface are also two inclined cams, and upon the lower side of the upper leaf, just inside the eye, is a similar cam; a circular disk, with cavities for the reception of the cams upon both the upper and lower surface, is placed loosely around the pintle, and upon this the whole weight of the shutter rests.

Claim.—The arrangement of double ratchet plate H, with the teeth, pawls, or talons E and M, upon the fixed and movable members of the hinge respectively.

No. 50,100.—JOSEPH DAVENPORT, Nessenskun, Wis.—*Washing Machine.*—September 26, 1865.—This invention consists in hanging the rubber by a single rod from the centre of the shaft, so that the rubber will yield laterally to the thickness of the cloth.

Claim.—The rubber suspended or hung from the shaft C, by a single rod D, which is pivoted in a shaft F, at one end of the rubber, to admit of a lateral adjustment of the same, as well as a forward and backward movement, in connection with the concave of rollers *i*, all being arranged to operate substantially in the manner as and for the purpose set forth.

No. 50,101.—AUSTIN G. DAY, New York, N. Y.—*Amalgamator.*—September 26, 1865.—This invention consists of a retort set in a furnace, and connected with a tube passing through the upper part of said furnace. The tube is provided with a feed wheel and distributor, and has attached to its upper end a hopper. The retort being filled with mercury, and a fire started in the fireplace, the vapor of the mercury passes up into the tube, where it mixes with the ore as it passes through the said tube.

Claim.—The combination of a suitable fire chamber or furnace flue A A A, or its equivalent, with the amalgamating cylinder, or its equivalent, substantially in the manner and for the purpose herein set forth.

Also, the feeding and discharging apparatus of the cylinder, in combination with the feed of mineral and vapor of metal, as set forth.

Also, the distributor D, as set forth.

No. 50,102.—JOHN H. DOOLITTLE, Ansonia, Conn.—*Mode of Making Clasps for Hoop Skirts.*—September 26, 1865.—This invention consists in cutting from the material from which the clasps are made a continuous strip of blanks which pass on through suitable dies by which the blanks are separated, formed up, and discharged at the same time with the strip of scrap, while the remaining stock is reeled up for re-use. The continuous strip of blanks may be formed in such manner that the blanks may be separated and formed up without making any scrap in the operation.

Claim.—Forming the clasps, or other similar articles, by means of a succession of sets of rotary dies where the strip of stock fed to the dies is divided into several parts, in the manner substantially as hereinbefore described.

Also, forming blanks of sheet metal by one set of rotary dies, and close together, substantially as described, so that in their subsequent separation and forming up no stock is wasted.

No. 50,103.—C. M. DRENNAN, Boston, Mass.—*Apparatus for Carburetting Air.*—September 26, 1865.—This invention consists of a tight case, having a slide in the upper part, to which is attached a tube containing a valve opening inward. Below the valve is a reservoir, from which extend pipes, and to which are attached other short perforated pipes. The scroll partitions are confined between two heads, the inner edges of said scrolls being made curved or angular.

Claim.—First, the uneven, angular, or curved edges of the partitions F, as and for the purposes herein specified.

Second, in combination with the revolving bucket wheel I, within the closed case A, the air pipe G, and receiver E, substantially as and for the purposes set forth.

Third, in combination with the closed case A, and revolving bucket wheel I, the removable top C, constructed as and for the purposes specified.

Fourth, the combination of the curved partitions F, and heads I, with the box U, and escape pipe R M, substantially as and for the purposes specified.

Fifth, the combination with the receiver E, with the valve *b*, and pipes G H *g*, as and for the purposes specified.

No. 50,104.—LAMMOT DUPONT, Wilmington, Del.—*Plate for Pressing Gunpowder.*—September 26, 1865.—This invention consists in the use of plates of hard rubber for pressing powder.

Claim.—The use of plates, made of hard or indurated rubber, for pressing gunpowder, as and for the purpose substantially herein described.

No. 50,105.—EDGAR ELTINGE, Kingston, N. Y.—*Moulding Lamp Chimneys.*—September 26, 1865.—This invention consists in the mode of constructing moulds for lamp chimneys, so as to afford a means of lighting the lamp through a hole in the chimney.

Claim.—In moulds for pressing glass chimneys for lamps, forming a depression on the side, in connection with an air hole for forming a tube in the sides of such chimneys, substantially as and for the purpose specified.

No. 50,106.—C. B. ENGLISH, Springfield, Mass.—*Combined Knife, Tweezer, and Ear Spoon.*—September 26, 1865.—This invention consists in a combination, in a handle suitable for carrying in the pocket, of a knife blade, ear spoon, and tweezers.

Claim.—As a new and improved article of manufacture the device herein described.

No. 50,107.—HAMPTON W. EVANS, Philadelphia, Penn.—*Steam Gauge.*—September 26, 1865.—The object of this invention is to register the pressure of steam in steam generators with unerring certainty. Its novelty consists in the combination and arrangement of the spring rings, plate, the link, quadrant, spring, and the elliptical foot piece.

Claim.—First, combining one or more spring rings B′ with the diaphragm spring plate B, for increasing its strength and elasticity, substantially as herein set forth.

Second, the combination of the link L with elliptical foot piece J and toothed quadrant M, substantially as and for the purpose above described.

Third, the combination of the spring K with the elliptical foot piece J, substantially as described and for the purpose above set forth.

No. 50,108.—JOSEPH EVANS, Newark, N. J.—*Machine for Disintegrating Fibrous Plants.*—September 26, 1865.—This invention consists in the use of a peculiarly constructed spiral screw or screws revolving in the interior of a boiler that has sections of spirals attached to it inside.

Claim.—The use, for the object specified, of toothed or plain-edged screws, constructed and operated in the manner herein set forth.

Also, the boiler, with the inside projections, when used in combination with a screw or screws.

No. 50,109.—EDWARD FARON, New York, N. Y.—*Steam Generator.*—September 26, 1865.—This invention consists in constructing a generator with a series of tubes or flues placed immediately over the fire through which the water passes, in combination with a series of tubes or flues placed immediately above the first named ones through which the steam passes, and is superheated on its way to the engine. Between the two series of tubes above named there is placed a perforated diaphragm through which the products of combustion pass, and by which they are evenly distributed over the entire surface of the superheating series. In that end of the superheating tube which is nearest the furnace is placed a plug with an aperture much smaller than the diameter of the tube for regulating the flow of steam through the tubes. To prevent the water entering the superheating tubes a shield is placed in front of them, which, together with the diaphragm and plugs above referred to, constitute the remaining novel features of the invention.

Claim.—First, the construction of a steam boiler in which all the steam generators shall pass through the superheating tubes, as and for the purpose set forth.

Second, the construction of a steam boiler, in which the generating and superheating tubes are arranged horizontally, or nearly so, and entirely within the furnace, substantially as described.

Third, the perforated plugs J J, in the receiving ends of the superheating tubes, for the purpose of equalizing the flow of steam in all the superheating tubes alike.

Fourth, the perforated plate K, in combination with the generating tubes and the superheating tubes, as and for the purposes set forth.

Fifth, the water guard L, in combination with the superheating tubes, in the manner and for the purpose described.

Sixth, the arrangement of the generating tubes B B, and the superheating tubes C C, in such a manner as that the fire passes around the outside of both, as set forth and described.

No. 50,110.—ELIZA J. FIELD, Waltham, Mass., executrix of FRANCIS FIELD, deceased.—*Composition for Cleaning the Teeth.*—September 26, 1865.—This invention consists of a composition of carbonate of lime, powdered orris root, super-carbonate of soda, white sugar, and any suitable essence.

Claim.—The within described dentifrice, made of the materials specified, and mixed together in about the proportions set forth.

No. 50,111.—DE LANCY FREEBORN, New York, N. Y.—*Gas Pipe Coupling.*—September 26, 1865.—In this invention the coupling is in three parts: the gas pipe, the reduced and tapering end of which is forced into the end of the elastic tube; a long, thin, and tapering thimble or sleeve split into a number of sections or staves by slots extending almost but not entirely through its whole length; and another larger sleeve tapering like the former but not slotted.

Claim.—The combination of the inner cylinder *a*, and the slotted thimble B, between which P is inserted and compressed, and the compressing thimble C, all substantially in the manner and for the purpose herein set forth.

No. 50,112.—ENSIGN C. FULLER, Lowell, Mass.—*Kettle Scraper.*—September 26, 1865.—This invention consists of a piece of steel or iron flattened in hoe form, with a shank, ferrule, and handle, for the purpose of scraping the inside of pots and kettles.

Claim.—The scraper described as a new article of manufacture for the purpose specified.

No. 50,113.—C. GARDNER, Freedom, Ohio.—*Fruit-drying Frame.*—September 26, 1865.—This invention consists in a series of hubs with arms and braces pivoted thereto by means of wires placed in grooves around the periphery of said hubs, and which are made to slide up and down upon a standard, which is adjusted at pleasure by means of a set screw.

Claim.—The adjustable standard A, hubs D, wires *d*, braces I, and arms C, when especially arranged and operating conjointly as and for the purpose set forth.

No. 50,114.—C. C. GLEASON, Wauconda, Ill.—*Brace for Carriage Springs.*—September 26, 1865.—The object of this invention is to prevent the elliptic springs of vehicles from becoming bent or broken by the forward and backward movements of the body of the carriage; also, to prevent the body from being strained or broken by such movements. These objects are effected by the use of iron braces, one of which is attached firmly at one end to the bottom of the forward spring at the centre thereof, and the other is attached in the same manner to the rearward spring.

Claim.—The specific arrangement and adjustment as described, to wit: attaching the revolving levers to the bottom of the carriage box, and attaching the braces to said lever and the front and rear axles, substantially as set forth.

No. 50,115.—NATHANIEL GOODWIN, Jr., Newburyport, Mass.—*Quartz Mill.*—September 26, 1865.—This invention consists in providing in a proper case two grinding wheels, rapidly revolving in opposite directions or towards each other, and having a ridge centrally placed between them, which acts as a deflector to prevent the quartz thrown from one wheel from passing under the other.

Claim.—First, the arrangement in a single case or chamber F of the two grinding or crushing wheels M M revolving toward each other, substantially as set forth and for the purposes described.

Second, in a grinding or crushing mill thus constructed, for the purposes specified, the central ridge or deflector G in combination with the wheels M M, substantially as and for the purposes described.

No. 50,116.—JOHN GOULDING, Worcester, Mass.—*Bobbin for Spinning.*—September 26, 1865.—To the base of the bobbin are attached two metal springs which clasp the spindle when the bobbin is applied thereto, so that the bobbin and spindle will turn together.

Claim.—The combination of a metal spring or springs with the base of the bobbin, substantially as and for the purposes set forth.

No. 50,117.—CHARLES HALE, Bangor, Maine.—*Sewing Machine.*—September 26, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, the application to the needle thread of sewing machines of a current or blast of air, which will deflect the thread in the right direction for the formation of the loop and stitch, as herein described and shown.

Second, the combination of the air-pump M and tube *o*, substantially as and for the purpose specified.

No. 50,118.—R. L. HALL, Lowell, Mass.—*Bed Bottom.*—September 26, 1865.—This invention consists of elastic wooden slats that rest on two rollers or windlasses, one at or near each end of the bedstead; to the ends of the slats are attached elastic straps; the other ends of the straps are attached to the windlasses, which, when turned, regulate the rigidity of the bed bottom.

Claim.—The combination of the elastic springs *b b b*, the windlass *d d*, and slats *a a a*, for the purpose described.

No. 50,119.—THOMAS HARPER, West Manchester, Penn.—*Sawing Machine.*—September 26, 1865.—This invention consists in arranging the parts of a sawing machine so that, by means of a screw, the frame upon which the saw hangs is fed to the work; and by means of a long drum upon which the driving belt of the saw runs, and the shifting pulleys, it is made to reverse the direction of the feed screw, and consequently drive the same back after making its forward cut.

Claim.—The arrangement of the drum B, pulley C, sliding frame D, screw E, pulleys 1 2 and 3, levers *l m* and *n*, and shifting pieces O, the whole being constructed, arranged, and operating substantially as herein described and for the purpose set forth.

No. 50,120.—W. H. HART, New Britain, Conn.—*Door Bolt.*—September 26, 1865.—This invention relates to a Z-shaped or neck bolt, and it consists in projecting the main body of the bolt forward of the bend and passing it through a turned-up portion of the bolt plate and into the jamb, thus causing it to serve as an auxiliary or additional bolt.

Claim.—Providing a support at the extended end of the main shaft or bolt of a Z or neck-shaped bolt, substantially as shown and described.

No. 50,121.—JOHN P. HAYES, Philadelphia, Penn.—*Petroleum Burner for Cooking, &c.*—September 26, 1865.—In this invention the oil is received from its source or supply into a chamber filled with pumice stone; thence it passes up through a perforated diaphragm into a smaller chamber and through a coil of pipe, whence, issuing in a small stream, it is so burned as to heat the chambers and coil.

Claim.—In a hydrocarbon burner for heating and cooking, the combined arrangement of a bent heating tube A B and a heating chamber C, so constructed as to operate together substantially as described and set forth, for the purposes specified.

No. 50,122.—JONAS HOBBS, North Sanford, N. Y.—*Churn Dasher.*—September 26, 1865.—In this invention the bottom of the dasher is composed of two narrow perforated pieces, crossing each other at right angles. From the outer ends of each part pieces are extended in the form of braces to the dasher shaft; these pieces are also perforated.

Claim.—A churn dasher constructed of two cross-bars *a a*, provided with oblong openings *b b* and with inclined bars *c*, attached to the outer ends of the cross-bar *a* and to the dash staff A, and provided with openings *d*, substantially as herein shown and described.

No. 50,123.—HERMANN HOCK and JACOB ZITZ, Philadelphia, Penn.—*Foot Warmer.*—September 26, 1865.—This invention consists of a portable wooden box in which a sheet-metal reservoir for hot water is fitted; the top of the box is made of several thicknesses of cloth, padded and fitted closely on top the reservoir; the top is made to move on a hinge, and water is introduced into the reservoir through a hole, which is usually stopped by a screw plug.

Claim.—As a new article of manufacture the foot-warming stool herein represented and described, consisting of the external case A, upholstered hinged cover *a b* B, sheet-metal water-box D, fitting closely within the case, non-conducting lining C, and feet F, all as specified.

No. 50,124.—C. C. HOLMAN, Clayville, N. Y.—*Neck Yoke and Whiffletree Socket.*—September 26, 1865.—The object of this invention is to facilitate the hitching and unhitching of the traces to whiffletrees, or the chains or straps to neck yokes, and to secure them from becoming unhitched by their own action. This object is effected by the use of an angle lever, constructed and applied to its socket in such a manner as to protect the joint and spring power which holds the hook closed from dirt or other hindrance to its operation.

Claim.—The mode of securing the angle lever D *e* in its place by casting the chamber socket B *b* on to it, so that the joint and the spring E, which holds the lever D closed against the hook C, will be protected, all constructed as and for the purposes herein described.

No. 50,125.—CHARLES HOWARD, New York, N. Y.—*Breech-loading Fire-arm.*—September 26, 1865.—In this invention a sliding breech plug is moved backward by the trigger-guard lever, which is pivoted thereto, thus leaving an opening in the under side of the barrel through which the cartridge is inserted into the chamber. A longitudinal spring hammer with a central percussion pin, presenting a flat disk at the front, is contained within the sliding breech block, and is cocked by its backward movement; the same being released or discharged by a peculiar link or stirrup connection with the trigger.

Claim.—First, the combination of the plunger P, link N, and the lever guard F, said lever guard being so constructed and adapted to the other parts as to connect to the plunger by means of an opening for the insertion of the cartridge in the under side of the barrel, and also to perform the several functions of a trigger guard, a lever for operating the plunger, and a recoil block between the plunger and a fixed portion of the gun, substantially as and to the effect herein-above set forth.

Second, as an improvement the plunger made with a head-screw into the back end to hold the spiral spring, and to guide the hammer rod; also, the groove in said plunger for the sliding hook to travel in, substantially as and for the purpose set forth.

Third, the form of the centre percussion pin L, being formed with a large flat head fitting the whole calibre of the plunger, and covering the head of the percussion pin, so that when the centre pin is struck by the head of the hammer it drives the small side pin also, and also holds the small pin in its place, substantially as and for the purpose set forth.

Fourth, the making of the hook and the spring that holds the hammer rod both in one piece, and of fastening the same to the upper instead of the lower strap of the breech-piece, substantially as and for the purpose set forth.

Fifth, the peculiar construction of the stirrup K, as being made so that it embraces the end of the hook, spring, hammer rod, and trigger, holding the hammer rod firmly to the hook when the gun is cocked; it also pulls the rod from the hook when the trigger is pulled to fire the gun, substantially as and for the purpose set forth.

No. 50,126.—G. W. HOWARD, Pontiac, Mich.—*Tank for Transporting Oil, &c.*—September 26, 1865.—This invention consists of a tank provided with a reservoir on top and an aperture through which the tank is filled. In the bottom of the tank directly under the reservoir is a well provided with a cock. From the reservoir extends a pipe to within a few inches of the bottom of the well; the well is filled with water and the tank with oil. When the oil expands by a change of temperature the water is forced up the tube into the reservoir and falls again when the oil contracts in volume.

Claim.—First, the closed tank for transporting or storing oils securely, when arranged and operating substantially in the manner described.

Second, accommodating the expansion or contraction of oils in closed tanks by the resistance of a column of water, substantially in the manner described.

Third, the combination of the tank, cisterns, and reservoir, substantially in the manner and for the purpose set forth.

No. 50,127.—EDWIN HOYT, Stamford, Conn.—*Tobacco Pipe.*—September 26, 1865.—This invention consists of a perforated disk arranged in the bowl of the pipe below the smoke passage, and secured in place by a screw passing through the bottom of the bowl.

Claim.—First, the disk or diaphragm C, arranged in the bowl of the pipe below the smoke passage, substantially as specified.

Second, the combination of the tube *a* and diaphragm C with the bowl A and nicotine chamber D, substantially as shown and described.

No. 50,128.—ERASMUS D. HUDSON, New York, N. Y.—*Surgical Apparatus for Exsections.*—September 26, 1865.—This invention consists of a combination of devices so arranged that when used by any one who has suffered an exsection of any portion of the bones of the arm, support may be afforded to the muscles and the functions of the injured member restored.

Claim.—First, the apparatus for exsections of bones and joints of the arm and of the shoulder joint, constructed substantially as described.

Second, the scapula and saddle pad *a*, for the shoulder, constructed substantially as described, and also in combination with the universal joint which connects it to the case *e*, substantially as described.

Third, in combination, the scapula and saddle pad *a*, the case *e*, and the joint *d*, constructed substantially as described.

Fourth, in combination, the elastic bands P O and U, with the scapula and saddle pad *a*, and os humeri case *e*, constructed substantially as described.

Fifth, the thumb piece *j*, in combination with the cord or tendon *k*, and the grooved elbow joint, whereby the hand is turned over when it is raised, constructed substantially as described.

Sixth, the cords or tendons *m*, representing the biceps or flexor muscles of the fore arm, in combination with stanchions *n*, on the frame of the elbow joint, and with the case *h* of the fore arm, constructed and arranged substantially as described.

Seventh, the flexible aponeurotic bands *f i*, applied to the rigid cases *e* and *h*, substantially as described, for the purpose of banding and confining the muscles.

No. 50,129.—WILLIAM L. IMLAY, Philadelphia, Penn.—*Churn.*—September 26, 1865.—The body of the churn is in form of a short cylinder; a horizontal shaft passes through the centre and is turned by a crank outside. Upon this shaft a disk is placed at an angle of about 45° and is caused to rotate with the shaft, and in its movement gives the required motion to the cream.

Claim.—Constructing the dasher of a single flat disk or wheel, set at an angle of 45°, or thereabout, to the axis of the shaft by which it is rotated, the body of the churn having such length and diameter that the oblique disk sweeps near the inner surface of both end and side, as and for the purpose specified.

No. 50,130.—SILAS T. JACKSON, Sheboygan Falls, Wis.—*Machine for Dressing Wagon Wheels.*—September 26, 1855.—This invention consists in having in the machine a revolving wheel, upon which the wagon wheel is centred, clamped, and revolved, and brought in

contact with revolving cutter heads having knives that dress the two sides and outer periphery of the felloe at the same time, all adjusted on a single shaft. The wheel is revolved so that the sides of the felloes are brought in contact with two revolving disks having sand or emery on their surfaces, which polishes the sides after dressing.

Claim.—The combination of a bearing wheel D, planers G, and smoothing disks I, operated and operating substantially as and for the purpose set forth.

No. 50,131.—WM. JACKSON and FRANK ROBINSON, New York, N. Y.—*Washing Machine.*—September 26, 1865.—This invention consists in combining with a roughened board a rubbing block with inclined grooves, and a grooved roller pivoted to a swinging frame.

Claim.—The combination with a corrugated or roughened board A, of the rubbing surface H, grooved roller G, and handle F, mounted in a swinging frame, the whole constructed and operating substantially as described and specified.

No. 50,132.—JOHN JOHNSON, Saco, Maine.—*Manufacture of Spirits of Turpentine.*—September 26, 1865.—This invention consists in placing the wood or lumber in suitable retorts and covering it with water, after which heat is applied and the water raised to a boiling point. The turpentine is set free from the wood by the boiling water and floats on the surface of the same. The boiling point of the water may be increased by dissolving in it any suitable salt, and thus a higher degree of turpentine eliminated. To prevent the loss of any of the more volatile portions of the oil, the retort may be so arranged that a current of warm air may be drawn through it, to carry the said volatile products to a condenser.

Claim.—The employment and use of water, steam, air, or gases and solvents, when circulating around, among and through wood, timber, or lumber, in proper receptacles, at a temperature sufficiently low to receive the exhaustive terebinthinates and resins free from empyreumatic odors.

Also, the mode of procuring resin and spirits of turpentine by heating the lumber or wood placed over a stratum or sheet of water, which condenses the volatile products of the wood therein, and frees the resin, when the same is used in combination with the seasoning of lumber or timber by hot air or steam, substantially as specified.

Also, the mode of using two boilers successively for economizing the heat and avoiding the waste of terebinthinate products, substantially as specified.

Also, the mode of increasing the temperature of the liquid for extracting the volatile products by the use of any suitable soluble salt, substantially as specified.

Also, passing heated air over the surface of a liquid to, and in taking up, the volatile products previous to their entry into condenser, substantially as specified.

Also, pressing wood after steaming to eliminate the oleoresins, substantially as specified.

No. 50,133.—WILLIAM JOHNSON, Milwaukee, Wis.—*Damper.*—September 26, 1865.—In this invention, two concave disks are united by their concave faces, both disks being perforated and hung on pins so that the whole can be rotated. When the pipe is closed by placing the damper transversely to the diameter of the pipe, the smoke and gas pass through the openings, but when the damper is turned edgewise, the smoke passes partly through and partly around the damper.

Claim.—A damper with convex side, hollow in the centre, with openings for the smoke to pass in, and a passage for its exit, substantially as described.

No. 50,134.—JAMES D. JONES, Pittsburg, Penn.—*Grain Drill.*—September 26, 1865.—In this invention the broadcast seed-box is pivoted upon a stationary bar and oscillated by means of cog wheels and a lever operated by the draught wheel.

Claim.—Suspending the hopper or seed-box C on a stationary bar x, and imparting to the hopper or seed-box an oscillating motion, the whole being constructed, arranged, and operating substantially in the manner herein described, and for the purpose set forth.

No. 50,135.—JAMES D. JONES, Pittsburg, Penn.—*Drag Bar and Teeth for Grain Drills.*—September 26, 1865.—In this invention the drag bar or seed tube is pivoted to a fixed plate at its centre; near the end of the plate is fixed the chute for the hopper. The tube is made of gas pipe screwed together.

Claim.—The use of the attachment plate A, furnished with the receiving hopper B, and used in combination with the drill D and distributing tube C and *e*, constructed, arranged, and operating substantially as herein described, and for the purpose set forth.

No. 50,136.—OLIVER S. JUDD, New Britain, Conn.—*Sash Fastening.*—September 26, 1865.—This invention consists of a hasp to be attached to the rail of the upper sash, having a broad flat base, so that when turned up vertically, it will, aided by a broad flat spring, maintain itself in a position out of the way of the lower sash, but which when it is desired to lock the sashes is brought down over and around the eccentric shank of a turn-button, which latter on being afterward turned half around by means of a handle projecting laterally from it, will draw the two sashes tightly together, the button at the same time preventing the hasp from being raised up.

Claim.—The handle J, united to the turned button G by a shank L, in combination with the spring hasp D E, substantially as and for the purpose described.

No. 50,137.—CORYDON KARR, Buffalo, N. Y.—*Mop Head.*—September 26, 1865.—This invention consists of a threaded collar carrying the movable jaw of the mop head, and working on a screw shank, which is pivoted to the other jaw. A jam-nut is used for holding the collar securely in any position required.

Claim.—The combination and arrangement of the jam-nut C with the threaded collar B and screw shank A, operating as and for the purposes set forth.

Also, in combination with the jam-nut C and collar B, the pivoting of the screw shank A, in the stationary jam D, whereby the opening and closing of the jaws may be effected by turning either the head or handle of the mop, substantially as described.

Also, in combination with the threaded collar B and screw shank A, forming the contiguous surfaces of the jam-nut C, and collar B, conical or of equivalent shape, substantially in the manner and for the purposes set forth.

No. 50,138.—EDWARD KAYLOR, Pittsburg, Penn.—*Coupling Shaft of Boring Tools.*—September 26, 1865.—In this invention a threaded tenon upon the end of one section screws into a socket upon the end of the other, the threads upon the tenon being all equal in external diameter, but of unequal depth, being deepest at the end and running out very fine near the shoulder. An unthreaded portion of the tenon immediately at the end has a sunken space with an eccentric bottom extending about one-third the circumference, which terminates with a square shoulder at each end, and a screw passing inwards from the outside of the socket, and with its end forced into this sunken space, prevents the coupling from becoming unscrewed.

Claim.—So constructing the male screw for the joint of boring tools as that the body of the screw at the base of the threads shall be tapering from the fillet upward, while the diameter of the screw at the circumference of the threads shall be cylindrical, for the purpose of strengthening the screw at its base, substantially as hereinbefore described.

Also, the inclined eccentric bearing on the face of the male screw, in combination with the socket and its set screw, constructed substantially as and for the purpose hereinbefore set forth.

No. 50,139.—EDWARD KAYLOR, Pittsburg, Penn.—*Machine for Finishing the Cascable of Guns.*—September 26, 1865.—This invention consists in the use of a guide pin attached to the tool carrier which bears against the part that has been operated upon by the cutting tool, and prevents it from cutting too deep, the tool being pressed up to its work by a spring, in combination with another guide pin upon the revolving head which supports the tool carrier. The said pin rests against a revolving former, the tool and last-named guide pin having a feed motion towards and from the axis of the gun, which gives such form to the end of the gun as to correspond with the former.

Claim.—First, the use of a revolving cutter guided, as hereinbefore described, by means of a point pressing against that part of the face of the cascable which has been operated upon by the cutter, in combination with the tool and screw carrier for moving the cutter toward and from the axis of the gun, for the purpose of planing the cascable of guns.

Second, the use of a revolving cutter, having a guide point revolving with it and pressing against the face of a forming disk, in combination with the tool carrier and screws for moving the guide point toward the centre of the disk as the cutter moves towards the axis of the gun for the purpose of planing the cascable of guns in any required shape, substantially as hereinbefore described; also, combining in one machine the tools for ratcheting and planing the cascable, all constructed and arranged and operating substantially as hereinbefore described.

No. 50,140.—JOHN F. KELLER, Greencastle, Penn.—*Wheat Drill.*—September 26, 1865.—This invention consists in the introduction of a check link connecting the boot of a wheat drill with the spring of the draught rod in order to give greater flexibility to the boot and shovel, and to facilitate the extension of the shovel when it strikes a stone or other obstacle.

Claim.—First, the above described check link for the purpose of limiting the motion of the bar or lever G, substantially as set forth.

Second, the arrangement and combination of the link H, the bar or lever G, and the boot A, with the spring for giving flexibility to the boot or shovel, substantially in the manner and for the purposes set forth.

No. 50,141.—W. H. L. KING, Princeton, Iowa.—*Cultivator.*—September 26, 1865.—In this invention the two plough beams are fastened with upright standards and move laterally by rollers that pass over a cross-piece in the cultivator frame. A slot in the axle permits the lateral movement of the standards. By means of a rock shaft a frame is forced upon the plough beams, keeping the ploughs at the requisite depth in the furrow.

Claim.—The plough beams E E attached to the frame A, by means of the universal joints F, in combination with the uprights G G, and slide H, and foot levers J J, all arranged to operate in the manner substantially as and for the purpose set forth.

Also, the pivoted frame Q connected to the shaft M, substantially as shown, when used in connection with the plough beams E E connected to the shaft M, and all arranged substantially as and for the purpose specified.

No. 50,142.—CHAS. W. KINNE, Cortland, N. Y.—*Mode of Sinking Well Tubes.*—September 26, 1865.—This invention consists of an arrangement of parts whereby the end of a rod or bar employed within the tubing forms the opening point, and is capable of being adjusted downward so as to form a double wedge for opening the way, and whereby the adjusting collar that holds the tubing in place at the top screws upon the end of the tubing, so that the screw threads shall not become battered in driving.

Claim.—Forming the opening point F as a part of the interior rod B, and raising the same in combination with the tubing A, in such a manner that a separate point for each well is dispensed with, substantially as herein set forth.

Also, coupling the adjustable collar C with the tubing A, by means of the screw threads *a c*, and connecting the said collar with the interior rod B, by means of the set screw *g* and holes *h h*, the whole arranged substantially as herein specified for the purpose of preventing the brushing of the end of the tubing and for retaining the same in place.

Also, the arrangement and combination as a whole consisting of the interior rod B with fixed point *f*, tubing A, with sharp-edged extremity *a*, and adjustable collar C, connected by the screw threads *a e*, substantially as described.

No. 50,143.—JOSEPH F. LIGHT, Worcester, Mass.—*Mode of Lubricating Journal Boxes.*—September 26, 1865.—This invention consists in hanging the drip cup to the box by means of a hollow tube screwed into the bottom of the inside of the drip cup and in the bottom of the box; within this tube is a wick to conduct oil up from the cup to the journal, the oil entering the tube through openings made therefor. One or more tubes are attached to the journal box, which tubes extend to near the bottom of the cup, each containing a wick for conducting the oil to the journal.

Claim.—First, the combination with the box of a journal or bearing of a tube or tubes G, and wick or wicks *c*, substantially as and for the purpose set forth.

Second, the combination with the oil cup or drip pan and lower half A of a journal box or bearing of a hollow supporting stem D and wick *c*, substantially as set forth.

No. 50,144.—MAHLON P. MARGERUM, Trenton, N. J.—*Wooden Coffin.*—September 26, 1865.—This invention consists in making the sides and rounded head of the coffin of one entire piece of wood. The rounded head is formed by bending it to the curve and slope desired, and then fastening it in the usual way to the bottom and foot of the coffin. The top of the coffin is made of wood steamed and pressed so as to give it an upward swell.

Claim.—The forming and constructing the sides and rounded head of wooden coffins with one single or entire piece of wood, and bending the same so as to form the coffin, substantially as above described and herein set forth.

No. 50,145.—A. B. MATTOON, Niles, N. Y.—*Wagon Brake.*—September 26, 1865.—This invention consists in the use of double levers with pulley fulcrums attached to the cross-bar by pivoted iron straps connected with the brake block. When the wagon is moving backward or upward, the revolving brake block turns from the wheel, preventing all friction. When the wagon is moving down hill the wheels apply the brake.

Claim.—The pulley fulcrumed levers E P N E P N, the revolving brake block B, the short single lever S, and the rod T, combined and arranged as described.

No. 50,146.—BENJAMIN MCEACHREN, San Francisco, Cal.—*Apparatus for Enamelling Mouldings.*—September 26, 1865.—This invention consists in providing an enamelling bath with a movable bottom, for the purpose of raising the moulding up out of the enamel so that it may be acted on by an enamelling tool moved by a traversing carriage; also in applying a steam chamber to an enamelling bath to keep the enamel hot and fit for use; also in combining with the aforesaid traversing carriage an enamelling tool and hopper to supply the enamelling material.

Claim.—As an invention and improvement in enamelling baths a movable bottom for raising the work or mouldings up out of the enamel or paste, substantially as described, and, in combination with the enamelling bath, the steam chamber for heating the bath and keeping it hot, substantially as described.

Also, the combination of the traversing carriage, hopper and enamelling tool, substantially as described, for the purpose set forth.

No. 50,147.—JAMES P. MCLEAN, Brooklyn, N. Y.—*Ventilating Pad.*—September 26, 1865.—This invention consists in a spring plate having an opening in combination with a volute spring to relieve the horse from the concussion caused by the action of the rider or of the vehicle.

Claim.—The spring plate A having an opening or openings N N N N, either separate or in combination with the volute or cone-shaped spiral spring or springs S S S S, operating in the manner and for the purpose set forth.

Second, the volute or cone-shaped spiral spring or springs S S S S, either separate or in combination with the spring-supporting surface A A A, with openings N N N N, as applied to a riding saddle or harness tree for ventilative and other purposes, substantially in the manner and for the purposes set forth and shown in the drawings.

No. 50,148.—AMOS MELOT and JEREMIAH T. TRY, Reading, Penn.—*Car Coupling.*—September 26, 1865.—This invention consists in the arrangement of tongs in combination with spiral springs and a lever at the side of the platform of a car, for the purpose of coupling and uncoupling the same.

Claim.—The arrangement of the tongs T, spiral springs F, chain G, and lever L, when constructed and combined with the frame and rubber lining as herein described, and for the purposes set forth.

No. 50,149.—PURCHES MILES, New York, N. Y.—*Curtain Fixture.*—September 26, 1865.—This invention consists in the employment of a friction knob applied to the cord that passes from the spool in combination with a spring that takes up the slack of the cord; also in the application of a double slotted bracket so formed that it can be used on either end of the roller.

Claim.—First, a friction knob, button or analogous device, in combination with the cord passing from the spool of the curtain roller and a spring, or its equivalent, to take up the slack of said cord, substantially as and for the purposes set forth.

Second, the inclined slots or notches formed in the bracket *d* for the reception of the axis of the curtain roller, so that the bracket can be used at either end of the roller, in the manner and for the purpose set forth.

No. 50,150.—WILLIAM MINICK, Kansas, Ill.—*Hay Derrick.*—September 26, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, the swivel upright E applied to the permanent upright B, in combination with the inclined box F secured to E and connected to the lower part of B by the bar H. all arranged substantially as shown, to form a new and improved crane for a hay elevating device.

Second, the segment I attached to the bar H, in combination with the rope J, pulley K, and the hoisting and branch ropes L L′, all arranged in combination with the crane to operate in the manner substantially as and for the purpose set forth.

Third, the bracing of the inclined bar F, by means of the transverse bar G and iron rods *d d*, substantially as and for the purpose described.

No. 50,151.—CHARLES MONSON, New Haven, Conn.—*Pressure and Gravitation Machine.*—September 26, 1865; antedated September 15, 1865.—This invention consists in the employment of two vessels of similar construction joined together by a conduit connection, and exhausting the air therefrom, then partially filling one of said vessels with fluid and generating steam in one of the vessels. The steam will, by its pressure upon the surface of the fluid, cause the same to flow from the vessel through the conduit into the second vessel, and its weight in that vessel will cause it to descend into the berth prepared for it, when steam will be again generated, which will drive the fluid back into the vessel in which it was first placed, and it will descend into its berth, and thus the operation is constantly repeated. By means of pawls and ratchet wheels the vibrations are converted into an intermittent rotary motion.

Claim.—First, the double utilization of vapor and weight of the same fluid, for the purpose and substantially in the manner as herein set forth.

Second, the use of two fluids, a denser and a lighter, substantially in the manner and for the purpose described, but as having the slot *d* in the said lever to enable the latter to slide upward on its fulcrum, under circumstances and for the objects as hereinbefore explained.

No. 50,152.—LORING MOODY, Malden, Mass.—*Car Coupling.*—September 26, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—As an improvement in the car coupling, as made not only with the pendulous pin C, combined with or applied to the lever B, but so as to operate therewith in manner and under pressure of the link, substantially as described.

No. 50,153.—JOHN PALMER, Sandsfield, Mass.—*Apparatus for Ejecting Refuse Matter from Steam Vessels.*—September 26, 1865; patented in England July 23, 1863.—Thisi nvention consists in providing a receptacle for the refuse matter to be expelled, which is placed below the water line, and so arranged that when such matter is deposited the aperture is closed, and a valve in the pipe which communicates with the water outside the vessel is opened, and pressure caused by air or steam is applied above the matter and it is expelled, and by closing the lower valve water is prevented from flowing into the vessel, and the aperture is ready to be again filled.

Claim.—The construction and arrangement of apparatus, substantially as herein specified, for expelling solid and liquid substances from ships and other vessels into the water below the water line, and for other analogous purposes, as herein set forth.

No. 50,154.—JOHN S. PATRIC, Victor, N. Y.—*Water Pipe.*—September 26, 1865; antedated September 18, 1865.—This invention consists of a pipe formed by winding a wooden hoop spirally around a suitable former. The hoop is steamed and the edges are cemented as the

hoop is wound; the ends are properly secured by screws or otherwise, and the pipe may be lined inside with paper and coated with paint or gas tar; to strengthen the pipe another hoop may be wound over it.

Claim.—A pipe, composed of wooden hoops spirally wound, substantially as shown and for the purposes herein set forth.

No. 50,155.—R. P. PATTERSON, Cincinnati, Ohio.—*Hydrant.*—September 26, 1865.—In this invention the piston has its seat upon one end of the horizontal main, and moves in a vertical pipe at right angles thereto; a drip aperture is provided at one side of said vertical pipe, being closed by the piston when the latter is lifted and open when it is seated; the water-way to a point above the piston's travel being through an auxiliary pipe forming a semicircle from the valve seat to said upper point, all the parts herein described being under ground and secure from freezing.

Claim.—The arrangement of main pipe A, valve chamber B, slotted aperture E, axial plunger D, branch C, discharge pipe F, and drip or waste way H, the same being combined and operated substantially as set forth.

No. 50,156.—JOB PHILLIPS, Pawtucket, R. I.—*Let-off for Looms.*—September 26, 1865.—In this invention the yarn-delivery, controlled by the shortening of its length between the yarn beam and the point where the cloth is made, governs by means of a vibrating bar the movements of a long arm rigidly attached thereto, the lower end of which arm engages directly with the shield upon the ratchet which actuates the yarn beam, thus insuring greater delicacy of action than if the arm were loosely attached to the bar, or more intermediate levers were used.

Claim.—Combining the vibrating bar J with the shield H by means of the arm I, rigidly attached to the bar, all constructed and arranged as described.

No. 50,157.—LOUIS PLANER, New York, N. Y.—*Sewing Machine.*—September 26, 1865.—In this invention the presser-foot is lifted positively, so that in sewing upon the cloth a cord or braid passes through a guide attached to the presser; the operation is facilitated, and the material, including the braid, can be readily turned upon the needle as a pivot when the presser is lifted.

Claim.—The employment and use of a braider in combination with a lifting presser-foot, whereby the sewing of braid, cord, &c., for ornamental work in curves, figures, &c., is greatly facilitated, substantially as described and specified.

No. 50,158.—CHARLES POOL and MOSES EDDY, Blissfield, Mich.—*Cider Mill.*—September 26, 1865.—This invention consists of a perforated cylinder encompassed by a wire screen with an endless belt-carrier which conveys the ground apples from the grinding mill between the perforated cylinder and two pressure rollers, surrounded by a pressure band, so that as the cider is expressed it will pass through the perforations of the cylinder into a proper receptacle to be conducted where desired.

Claim.—The perforated cylinder G, encompassed by the screen *b*, in connection with the endless conveying band E, the pressure band H, and any suitable grating or crushing device, substantially as and for the purpose herein set forth.

No. 50,159.—JOHN PAULSON, Jr., Pittstown, N. J.—*Harvester Rake.*—September 26, 1865.—This invention consists of an automatic raking device for harvesters, and will be understood by reference to the claim and engraving.

Claim.—The shaft N, operated through the medium of the crank pulley K and connecting rod L, in connection with the cam O, lever P, chain Q, and pivoted socket R, in which the rake staff K′ is fitted, all being arranged to operate substantially in the manner as and for the purpose specified.

No. 50,160.—E. L. PRATT, Boston, Mass.—*Flour Sifter.*—September 26, 1865.—This invention consists of a clamp and arms for securing the device to a table, sustaining and swinging a sieve, and devices for moving the flour in the sieve.

Claim.—First, the combination of the clamp *a* and standard B B′, made to operate substantially as described.

Second, the rocker bar D, when pivoted to the crank shaft C, for the purpose set forth and described.

Third, the vibrating fingers E E, when constructed to operate in the manner and for the purpose set forth.

No. 50,161.—T. W. PRATT, Boston, Mass.—*Steam Boiler.*—September 26, 1865.—This invention consists in so arranging the flues around the furnace, which is placed in the centre of the system, that all the heating surface beyond the fire-box is at an inclination sufficient to cause the sediment which usually forms in the boiler to be carried down to the water leg, where it can be readily removed, and as the flues have the same inclination they are not liable to become stopped with ashes. With the conical generator above described is combined a

case of the same form, terminating at the top in a chimney for carrying off the products of combustion, and which is designed to separate the solid from the volatile products of combustion, and deposit the solid parts in the lower portion of the boiler, where it can be consumed.

Claim.—First, the cone-shaped boiler, constructed as set forth, provided with the inclined radial flues, substantially as and for the purpose described.

Second, the conical chimney or case, in combination with the cone-shaped boiler, substantially as set forth and for the purpose described.

No. 50,162.—T. J. PRICE, Macomb, Ill.—*Washing Machine.*—September 26, 1865.—This invention consists in attaching the plunger to springs secured to the vibrating frame, whereby the clothes are preserved from injury in the process of washing.

Claim.—The springs *f*, attached to the vibrating frame, in combination with the movable plunger C and the stationary board B, all arranged and operating as and for the purpose set forth.

No. 50,163.—DAN READ, New York, N. Y.—*Manufacture of Boots and Shoes.*—September 26, 1865.—This invention consists in fitting the leather of which the shoe is to be made to a last in the ordinary manner, the inner sole being attached to said leather. An outer sole of India-rubber or gutta-percha is then attached to it by means o fa solution of rubber or gutta-percha, and then vulcanized.

Claim.—Securing soles made or formed of gutta-percha, India-rubber, or other vulcanizable gums, compounded and prepared for vulcanization to boots or shoes made of leather, and vulcanizing the same, in the manner and for the purposes specified.

Also, covering the uppers of boots and shoes made of leather with the compound above referred to, and vulcanizing it on the leather, in the manner and for the purpose specified.

No. 50,164.—LEONARD C. RIGGS, Florence, Mass.—*Ruffling Device for Sewing Machine.*—September 26, 1865.—This device is attached to a block and secured to the table; the cloth is fed as in ordinary machines, but is also passed through this device, one wheel of which is rotated by the cloth and gives greater velocity to another wheel, which thus gathers the lower piece of cloth. Adjustable hinged spring plates press the clothes upon the wheels; when the operator does not wish to ruffle the fabric it is relieved from this pressure by means of a thumb screw.

Claim.—First, a ruffler and gathering device for use on sewing machines, which is distinct from and independent of the feeding device, and which does not feed the material, but which is operated by the movement of the material in sewing, constructed and operating substantially as shown and described.

Second, in combination with the geared wheels C H and O, the spring-plates *a* and *d*, for the purpose of ruffling and gathering cloth when being sewed, substantially as described.

No. 50,165.—JOHN A. ROCHE and J. J. STEWART, Williamsburg, N. Y.—*Apparatus for Finishing Hats.*—September 26, 1865.—In this apparatus several hat-blocks are arranged in a circle with their crowns upward, each revolving horizontally upon its own centre by means of geared pinions below. The cord which holds the hat body on the block passes through a hole into the block, where it is held taut by a ratchet and detent. Arms radiating from a common centre hold an iron and a lurer to each hat; and steam passes from the centre shaft through each arm to the iron, which is hollow. By a crank motion above, the arms are all elevated and depressed together; and a coiled spring on the upper part of the central shaft renders the pressure yielding, to adapt it to slight irregularities.

Claim.—First, in hat-finishing machines, the combination on the same arm of an iron and a lurer, substantially as described.

Second, hanging the iron from a hollow shaft H, substantially as described, so that the whole series of irons can be raised and lowered by means of the crank shaft B.

Third, applying a yielding pressure on the hub F, so that the irons are free to move upward when passing over an uneven surface, substantially as shown.

Fourth, arranging and operating a series of hat-blocks and a series of irons around a common centre, substantially as shown.

Fifth, the combination, substantially as shown, of the spindles T, one or more, with the hat-blocks L, one or more, and the pawl and ratchet, the same being constructed and operated substantially as shown.

Sixth, placing a pulley in the base of a hat-block, for tightening the cord which fastens the hat on the block, substantially as shown.

Seventh, in hat-blocks passing a cord through its side or sides for the purpose of holding the hat thereon during the ironing process, substantially as described.

No. 50,166.—CHARLES RUSSELL, Wilmington, Ohio.—*Chair Bottom.*—September 26, 1865.—This invention consists in an additional set of rounds to which the covering and stuffing are secured in forming the seats of chairs.

Claim.—The additional set of rounds or slats B B, situated closely below, and in combination with, the ordinary upper set of rounds A A, substantially as and for the purpose herein specified.

No. 50,167.—C. W. SALADEE.—Newark, Ohio.—*Snap Link.*—September 26, 1865.—This invention consists in forming an open link and providing the same with a spring for the purpose of connecting parts of harness, chains, &c.

Claim.—The spring B, or its equivalent, in combination with the open link A, in the manner and for the purpose substantially as shown and described.

No. 50,168.—R. S. SANBORN, Ripon, Wis.—*Bed Bottom.*—September 26, 1865.—This invention consists of elastic wooden slats suspended longitudinally and transversely by India-rubber rings that are attached to the ends and sides of the bedstead by notched strips.

Claim.—The combination of longitudinal and transverse wooden slats D and G suspended from the frame by annular rubber springs, which are attached to notched strips E and H, substantially in the manner described.

No. 50,169.—E. K. SARGEANT, Boonton, N. J.—*Alarm Coffee Boiler.*—September 26, 1865; antedated September 14, 1865.—In this invention is a condenser fitting closely into a coffee boiler, through the centre of which a tube passes, opening at the lower end into the boiler, and at the upper provided with a valve and whistle, which is operated by the steam from the boiler.

Claim.—The combination and arrangement in a coffee boiler of the condenser C with the tube T, valve *v* and whistle *w*, substantially in the manner and for the purpose herein set forth.

No. 50,170.—JOHN W. SAYRE and ALEXANDER S. SCHULL.—Martin Creek, Penn.—*Machinery for Dressing the Edges of Slate Frames.*—September 26, 1865.—The object of this invention is to round off the corners of slate frames, after they are otherwise finished, and it consists of a rocking frame hung so as to be made adjustable, and so arranged upon a sliding carriage that when the slate frame is placed in the frame it can be slid with the carriage to a revolving cutter that will dress the corners and edges of the frame to the shape desired.

Claim.—The frame T, arranged to vibrate as described, and provided with a clamp V, or its equivalent, and operated in connection with the rotating cutter J, for the purpose of rounding the corners of slate frames.

No. 50,171.—MELCHI SCOTT, Fairfield, Iowa.—*Tire Shrinking Machine.*—September 26, 1865.—This invention consists in arranging upon a bench, at the proper distance from each other, one stationary and one movable head, each having dogs that are connected by rods, cranks, and an evener, to a hand or foot lever, so that they may be simultaneously drawn down upon the tire, which has previously been laid upon the said movable and stationary head, and clamp it fast. By means of another lever at the end of the bench, and connected to the movable head by rods, the said movable head is drawn toward the stationary one and the tire shrunk as desired.

Claim.—First, the caps C C, dogs 2 2, and the cranks 1 1, constructed and arranged as described.

Second, the rods *p p*, evener O, and clevis R, in combination with the lever P, for operating the clamping device as described.

No. 50,172.—ALLEN SHERWOOD, Auburn, N. Y.—*Fruit Jar.*—September 26, 1865.—This invention consists of a jar having a valve in its neck, which valve may be opened or closed by means of a handle on the outside of the jar. A glass vessel is made to fit closely to the mouth of the jar, and when in this position the air may be exhausted from it through a tube. When it is desired to remove any fruit from the jar, the receiver is secured to said jar by means of the bail, and the air being withdrawn from the receiver, it may be filled with fruit by opening the valve and tilting the jar. The valve is then closed, and the receiver containing the fruit may be detached.

Claim.—Removing preserved fruit from a can, jar, bottle or other article in which it may have been placed, by means of a secondary receiver or vessel, properly secured thereon, and from which the air is exhausted, substantially in the manner described and for the purpose specified.

No. 50,173.—S. ADDISON SHURTLEFF, Taunton, Mass.—*Dividers.*—September 26, 1865.—This invention consists in combining with the ordinary legs of a pair of dividers a centring leg, which passes down through the head of the dividers, and is adjustable in a nut suspended by suitable links or toggle arms from the ordinary legs, in such a manner that the said centring leg can be adjusted up and down, according to the position of the main legs, and that by the centring leg the distance measured off by the main legs can be divided off in two equal parts without loss of time.

Claim.—The centring leg D, arranged in combination with the main legs B B′, substantially as and for the purpose described.

Also, passing the centring leg through the head of the dividers, substantially as and for the purpose specified.

No. 50,174.—GEORGE SILL, Wilkins, Penn.—*Steam Generator.*—September 26, 1865.—The object of this invention is to employ the heat which gradually escapes from a steam boiler uselessly into the smoke stack, for the purpose of raising the temperature of a mass of water, and eventually to generate steam.

Claim.—The application of an additional boiler or water space, in combination with the smoke chamber and with the hermetically closed fireplace of a steam generator, constructed and operating substantially as and for the purpose set forth.

No. 50,175.—EDWARD SIMMONS, South Providence, R. I.—*Clamping Device.*—September 26, 1865.—This invention consists in inserting in the sides of the clamps grasping the leather, pieces of wood or soft material, in order not to injure the grain of the leather.

Claim.—The employment or use of wood, gutta-percha, leather, or strips of other material inserted in, or applied to, a clamp of a boot-crimping machine, substantially in the manner as and for the purpose herein set forth.

No. 50,176.—THOMAS SIMMONS, Chicago, Ill.—*Vent for Barrels.*—September 26, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, the combination and arrangement of the cylinder A, the piston C, cushion *c*, spring H, and their slots *a*, substantially as specified and shown.

Second, in combination with the above-mentioned parts, the employment of the tapering hollow screw N, as and for the purposes set forth.

No. 50,177.—ROBERT SKINNER, GEORGE DUNCAN, and CESARE MERIGHI, San Francisco, Cal.—*Method of Preparing Mastic Roofing.*—September 26, 1865; antedated September 22, 1865.—This invention consists in saturating canvas with a composition of coal-tar, sulphur, and lime. The composition is melted in a kettle, which has a roller in the bottom, and the canvas is drawn under the roller.

Claim.—The described combination of coal-tar in combination with brimstone, mixed together in the manner and in about the proportion described, and applied to the canvas and roof, substantially as and for the purpose set forth.

No. 50,178.—H. B. SMITH, Lowell, Mass.—*Planing Machine.*—September 26, 1865.—This invention consists in applying to the feed-rollers of a planing machine a horizontal jointed shaft, so constructed as that the feed-rollers when not parallel in their axis will not bind or in any way increase the friction of their journals, and thereby allow stuff of unequal thickness to pass through between the rollers.

Claim.—The use of the horizontal universal jointed shaft *r* in connection with the feed-rollers of planing machines, &c., arranged substantially in the manner described and for the purpose specified.

No. 50,179.—GEORGE SPINNEY, Saugus, Mass.—*Beehive.*—September 26, 1865.—This hive is constructed with double boxes, so arranged that the inner one is surrounded on all sides by a dead air space, and is provided with a board ribbed upon one side to be placed under the comb frames to hold them in place during transportation. The cover is provided with double ventilating passages and double screens.

Claim.—First, arranging the two boxes of a double-box beehive in such a manner that a dead air space shall be left between the two and surrounding the inner box at all its sides and bottom, substantially as and for the purposes described.

Second, in combination with the swinging frame C, the board P, to be applied for winter use, or in transporting the hive, substantially as herein described, the ventilating cover H, when constructed with air passages R and S and double inner and outer protecting screens, as herein described.

No. 50,180.—E. SPRAGUE, Schenectady, N. Y.—*Soap Composition.*—September 26, 1865.—This invention consists of a mixture of ordinary soap, sal soda, potash, soda ash, spirits of turpentine, carbonate of ammonia, rosin, and borax.

Claim.—A soap composed of the within-described ingredients, mixed together substantially in the manner and about in the proportion set forth.

No. 50,181.—JOHN J. SQUIRE, New London, Conn.—*Fruit Jar.*—September 26, 1865.—This invention consists of a jar, the cover of which is secured in its place by means of an elastic band passing over the top of said cover, and held by lugs on the neck of the jar.

Claim.—Closing the vent hole D and supply hole E of the cover of a jar by means of a cap F, made substantially as described.

Also, holding the covers of jars in place by means of elastic bands or straps, or their equivalents, applied substantially as shown and described.

No. 50,182.—WILLIAM STACKPOLE, Brooklyn, N. Y.—*Meridian Finders.*—September 26, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—A meridian finder in combination with a transit or similar surveying instrument,

said finder consisting of a reflector mounted on an axis at right angles to the line of collimation of the telescope, and having a movement around a centre concentric with said line of collimation, substantially as described.

No. 50,183.—HENRY E. STAGER, Milwaukee, Wis.—*Oil Ejecting Cup.*—September 26, 1865.—This cup is shaped like a funnel, the broad end being covered with an elastic material. A rod extending from the centre of the spring disk passes down nearly to the small end of the funnel, being tapering like it, has a screw-thread upon it, and a valve thereon made adjustable by being raised or lowered on the screw-thread.

Claim.—The adjustable valve E in combination with the thread on the rod D and the conical spout C, to regulate the aperture.

No. 50,184.—JOHN STANSFIELD, Brooklyn, N. Y.—*Cement.*—September 26, 1865.—This invention consists of a combination of bisulphide of carbon, gutta-percha, and isinglass.

Claim.—The cement composition herein described.

No. 50,185.—ALBERT C. SWEETLAND, North Attleboro', Mass.—*Die for Making Buttons.*—September 26, 1865.—In this invention the die is convex, and formed in sections, the abutting edges of which are made sharp so as to cut the button clean from a mass of material. From the cavity in the lower section project upwards two tapering and hollow punches designed to form the holes through the button, and from the cavity of the upper section project two pins which, as the dies come together, pass into the two hollow punches and force out the material with which they have become filled, while an elevated rib connecting the two pins at their base produces a groove across the surface of the button from one hole to the other.

Claim.—The combination of a counter punch *b* and the discharging passage *c* thereof with the dies A B and each of the main punches *a* thereof, the whole being arranged substantially as and to operate as specified.

Also, the arrangement of the groove frame V *e* with the upper of the two dies A B and their punches *a a*, the whole being as explained.

No. 50,186.—S. C. TAYLOR, Monroe, Mich.—*Artificial Denture.*—September 26, 1865.—This invention consists in a method of fastening artificial teeth to a vulcanized base. This is effected by attaching the teeth to a rim which is perforated with holes furnished with dovetailed cavities and with headed or bent pins.

Claim.—First, the rim *a*, projecting from the inside or back part of the teeth, as shown.

Second, the holes *b* and *f* in the rim *a* and the outer edge of the gum B, substantially as and for the purpose set forth.

Third, the combination of the vertical pins *e* and dovetailed cavities *c* in the rim *a*, as and for the purposes set forth.

No. 50,187.—ROBERT C. TOTTEN, Pittsburg, Penn.—*Casting Grooved Rolls in Metal Moulds.*—September 26, 1865.—This invention consists in making the metal chill in two parts, the line of division being longitudinal and central; and fitting within said chill is a series of metallic rings, each one of which is in form the counterpart of that of the groove which it is desirable shall be produced upon the surface of the cylinder or roll. Each ring is divided into two sections, their line of juncture with each other coinciding with that of the two sections of the chill, and are held in position by screws which pass through the chill from the outside.

Claim.—Casting chilled rolls with grooves by means of a metallic mould or chill furnished with suitable projections in its inner surface, substantially in the manner hereinbefore described.

Also, the combination with a chill or metallic mould for casting rolls of the rings *a b* and *c*, divided into two or more parts, and attached to the inner surface of the chill by means of screws or other equivalent device, for the purpose of casting grooved chilled rolls, substantially in the manner hereinbefore described.

No. 50,188.—C. P. S. WARDWELL, Lake Village, N. H.—*Machine for Making Knitting Needle.*—September 26, 1865.—An intelligible brief description of this invention cannot be given, owing to the complex character of the mechanism, without specific references to the drawings. It may, in general terms, be said to consist in particular combinations and arrangements of known devices which feed the wire into the machine, cut off a blank from the same, and then successively spot, punch and mill said blank.

Claim.—First, the arrangement and combination of the horizontally reciprocating table M, the vertically reciprocating frame N, and the revolving mill or mills T, respectively performing the several functions, and in relation to one another, substantially as and for the purposes herein specified.

Second, the auxiliary cam wheel or projection E on the main cam G in combination with the additional lever *k*, pivoted to the cam lever *g* and to the connecting rod J so as to produce increased leverage, substantially as and for the purpose set forth.

Third, the perforated shear projections 8 8 on the movable jaws or dies P P, by which the wires are guided and held in place, as well as cut off, in connection with the stationary dies *o o*, as herein specified.

Fourth, the notched springs K K in combination with the shear projections of the movable dies or jaws P P for clamping the wires and drawing them forward with the table M, substantially as herein set forth.

Fifth, spotting the needles and holding them in the same position and by the same means as when spotted till all the operations upon them are completed, substantially as herein specified.

Sixth, the mechanism, or the equivalent thereof, substantially as described, whereby the needles are spotted and then continually held, in like manner and by the same means, till all the operations of the machine upon the needles are completed.

Seventh, so spotting the needles as to leave the rear ends thereof round or of the full size when arranged in combination with the wire behind, so that the latter shall strike the needles and expel them from the machine, substantially as herein set forth.

Eighth, expelling the milled needles from, and feeding the forward wires upon, the table M by the return motion of said table, the wires remaining stationary for the purpose.

Ninth, the levers *p p* for operating the movable jaws or dies P P, arranged and operating substantially as described.

Tenth, the wedges Q Q on the frame N travelling with the table M in combination with the levers *p p*, as set forth.

Eleventh, the bed pieces V V, arranged substantially as and for the purposes herein specified.

Twelfth, gauging the milling of the boards through patterns X X, actuated by the movements of the table M, so as to raise or lower the mill or cutter shaft as required, substantially as specified.

No. 50,189.—H. K. WATERHOUSE, Factory Point, Vt.—*Thill Coupling.*—September 26, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The spring catch, composed of a spring C, provided with a bevelled projection *b*, and applied to the coupling pin B, in connection with the recess *e* in the ear A, substantially as and for the purpose herein set forth.

No. 50,190.—JAMES WATSON, Philadelphia, Penn.—*Coupling for Shafts of Boring Tools.*—September 26, 1865.—This invention consists in cutting a series of annular channels upon each section of the rod near its end, producing thus a corresponding series of collar-like projections or bands. Thus formed, the two sections are brought together end to end, and are clamped by two half cylinders, grooved interiorly to give lodgement to the collars, and a tapering thimble on a sleeve which surrounds the whole.

Claim.—First, the construction of a coupling joint by means of collars *f f* formed in the solid metal near to the end of the pieces of cylindrical bodies to be jointed, the shell C C in two or more parts, with its external conical form, and the sleeve D, with its external conical form, coupling the above parts as described.

Second, the thread *g* with the nut E, in combination with the sleeve D, in this manner, for the purpose described.

Third, the formation of a taper thread on the shell C C, and within the sleeve D, in the manner and for the purpose described.

No. 50,191.—JOHN WERNER, Jr., Prairie du Lac, Wis.—*Harvesting Machine.*—September 26, 1865.—This invention consists in the arrangement of devices for adjusting the height of the cutting apparatus, and the adjustment of the driving wheel on its shaft, to admit of the employment of different sized pinions for varying the speed of the cutters.

Claim.—First, the shaft M, provided at one end with an arm R attached to the axle of a grain wheel S, and provided at its opposite end with an arm N, connected by a rod O with a lever P on the main frame A, which lever is connected by a rod *i* with an arm A, at the rear of the draught pole B, substantially as and for the purpose set forth.

Second, the securing of the wheel D to its shaft C, by means of the screw *d* and jam nuts *e e*, substantially as and for the purpose specified.

No. 50,192.—WILLIAM WESTLAKE, Chicago, Ill.—*Lantern.*—September 26, 1865.—This invention consists in the mode of attaching the guards to the lower ring of the lantern, and also in the construction of the lantern.

Claim.—First, the band *d* in combination with the band *b*, for the purposes set forth.

Second, the band *l*, in combination with the band or upright portion of the bottom *e*, for keeping the bottom of the globe in place, as herein described.

Third, the means described for securing the lower ends of the upright bars to the lower bar of the guard.

No. 50,193.—JOSEPH G. WHITTIER and THOMAS M. POWELL, Attica, Ind.—*Curtain Clasp.*—September 26, 1865.—This invention consists of a device that clamps a curtain after

it has been rolled to any desired height, thus dispensing with the ordinary rollers and curtain fixtures.

Claim.—A device for holding up window curtains, constructed substantially as shown and described.

No. 50,194.—R. A. WILDER, Cressona, Penn.—*Packing Tubes of Oil Wells.*—September 26, 1865.—In this invention a cylindrical packing of flexible material fits into the well, having vertical enclosed channels through it for the central discharge tube and two smaller lateral tubes—one of these smaller tubes being secured at the top of the well, and serving to raise and lower the packing at will. At the bottom of this tube a valve serves, when it rests, to retain in the packing the liquid which descends said tube; but when this valve is lifted by an interior wire it relieves the packing of the pressure from above, and permits the escape into the well of what it contains. The other small tube has no communication with the interior of the packing, but at the will of the operator permits the flow of superincumbent water into the well.

Claim.—In combination with the flexible bag B, the pipes C and E, with the valves *i* and *g*, and wire rods *j* and *h*, for the purposes specified.

No. 50,195.—WILLIAM WILEY, Jr., Kokomo, Ind.—*Buckle Fastening.*—September 26, 1865.—This invention consists in a sliding tongue provided with catches upon it, in connection with a plate adapted for receiving said tongue, which is provided with a retaining pivoted loop for receiving said catches, and thus securing the two parts of the buckle together.

Claim.—A buckle which is constructed of two parts B and C, the part B having elevations *a* on it, and the part C being provided with a pivoted loop *b*, and lugs *d d*, for retaining the part B in place, substantially as described.

No. 50,196.—F. R. WILLIS, Waltham, Mass.—*Skate Sharpener.*—September 26, 1865.—In this invention a narrow piece of steel is fastened between two plates, tempered, and cut on its edges like a file. The projecting plates serve as guides to hold the file upon the skate iron in the act of sharpening.

Claim.—A file for sharpening skate irons, having either adjustable or fixed guides, substantially as herein described, and for the purpose specified.

Also, the combination of the file and burnisher as herein described.

No. 50,197.—JOHN WROTEN, Salisbury, Md.—*Apple Cutter and Corer.*—September 26, 1865.—This invention consists in the use of a circular cutter, divided into sections, which, when forced through the apples placed underneath, will divide or cut the same in pieces of suitable size for drying. The cutter has a hollow shaft, and its lower end is sharpened, which, when pressed down, will take out the core of the apple at the same time that the apple is sliced by the cutters, and discharges the core out of its upper end.

Claim.—The combination of the sector cutter E, the tubular shank C moving in a vertical sleeve, and lever D operating within the frame A, as and for the purpose described.

No. 50,198.—WILLIAM W. ARMINGTON, Lowell, Mass., assignor to GEO. E. MITCHELL, of the same place.—*Ice Crusher.*—September 26, 1865.—This invention consists in the use of a disk or crusher head, having sharp prongs projecting from its under side. These prongs are made to act upon ice resting upon a plane surface, so that each fragment, as soon as it is separated from the main piece of ice, moves off. The plane surface is made to rock backward and forward so as to allow the fragments to be easily removed.

Claim.—The combination of the crusher B, the pivoted box A, the shaft D, lever E, and spring H, operating substantially as and for the purpose specified.

No. 50,199.—WILLIAM W. ARMINGTÔN, assignor to GEORGE E. MITCHELL, Lowell, Mass.—*Fruit Masher.*—September 26, 1865.—This invention consists of a plunger or masher secured to the lower end of a vertical rod operated by a lever in which is a slot; the rod is forked at the upper end, and a roller is secured in the fork so that the roller moves in the slot of the lever; by the use of an elastic spring the lever is drawn back after being pressed down upon the fruit.

Claim.—The platform A, the stand B, with its arms D and E, the lever C, the horn I, the yoke X, the roller *c*, the spindle K, the mash L, the spring R, brace H, the whole arranged to operate substantially as herein set forth and shown, for the purpose specified.

No. 50,200.—VIRGIL DRAPER, assignor to OSCAR M. DRAPER, North Attleboro', Mass.—*Device for Swaging Chain Links.*—September 26, 1865.—This device consists of an iron block, having an upwardly projecting portion at each end, and an adjustable anvil placed between them, the latter having a groove across its upper surface. Two compressing bars, lying in the groove and attached to and operated by screws which pass through the uprights, extend inwards from each side of the anvil. In using the device, an annular link is placed upright in the groove; the two bars are then screwed up to support it, while a bunch placed upon the upper edge of the ring, receiving a blow from a hammer, reduces the ring from an annular to a rectangular or other form.

Claim.—The combination or mechanism, substantially as described, for the purpose set forth, the same consisting of the bed disk, the compressers, the punch and the ring holder and former, the whole being arranged as specified.

No. 50,201.—B. F. FIELD, Sheboygan Falls, Wis., assignor to himself and E. T. BOND, of same place.—*Seeding Machine.*—September 26, 1865.—This invention consists in the manner of feeding and regulating the flow of the seed, and of constructing and arranging the furrow opener, so that it may be readily adjusted to cut lightly or deeply, and also to cover lightly or deeply as may be desired.

Claim.—First, adjusting the runners *t*, so as to press upon the heel or point, as desired, substantially in the manner as described.

Second, the stirrup L, for the purpose of attaching and adjusting the covering roller K, substantially as set forth.

Third, in combination with the seed roller B, the slice C, for the purpose of preventing an overflow of seed, substantially as set forth.

Fourth, in combination with the seed roller, the spring D, for the purpose of preventing an overflow of seed, substantially as set forth.

Fifth, the oblique seed cells, U U, substantially as and for the purpose set forth.

No. 50,202.—B. F. FIELD, assignor to himself and E. T. BOND, Sheboygan Falls, Wis.—*Combined Potato Planter, Seeder and Cultivator.*—September 26, 1865.—The novelty of this invention consists in such an arrangement of the parts as to adapt the machine readily to the various purposes for which it is designed.

Claim.—First, the combination and arrangement of the feed wheel I, shoot K, and cultivator teeth E E E, substantially as shown and described, and for the purpose set forth.

Second, the combination and arrangement in a seeding machine of the pulleys B and P, and the set screw R, for the purpose of regulating the tension of the belt, substantially as set forth.

Third, the compound dray bar, formed of the two parts *d d*, Fig. 5, connected by the slotted plate M, substantially as and for the purpose set forth.

Fourth, the stop H, arranged and operated as described and for the purpose set forth.

No. 50,203.—JOHN and THOMAS GREY, assignors to themselves and JOHN D. and WILLIAM Grey, Pittsburg, Penn.—*Manufacture of Sheet-iron.*—September 26, 1865.—This invention consists in heating the sheets of iron, after being sufficiently reduced to be ready for the finishing rolls, to the ordinary heat, after which they are allowed to cool until they get below a cherry red, and are then passed through the rolls without removing the scale. This operation may be repeated as often as necessary.

Claim.—The mode of finishing sheet-iron by the process hereinbefore described, consisting of passing it repeatedly through the finishing rolls without removing the scale or oxide when the iron has been previously heated to the ordinary high heat for rolling, and allowed to cool after each heat below the point of a cherry red before passing it through the finishing rolls, for the purpose hereinbefore described.

No. 50,204.—W. J. INNIS, Providence, R. I., assignor to A. Burgess & Co., of same place.—*Machine for Making Paper Cap Tubes for Spinning Machines.*—September 26, 1865.—This machine comprises a rotating and sliding mandrel and a pressure roller for rolling up the paper tubes; a reciprocating brush for discharging the same; reciprocating nippers for properly presenting the paper to the mandrel; shears for cutting off the length of paper required for each tube, and rollers for feeding the paper and applying paste thereto.

Claim.—First, the combination of the rotating and sliding mandrel with the pressure roller, substantially as described, for rolling up and discharging the tubes, as set forth.

Second, the combination of the rotating and sliding mandrel and pressure roller with the reciprocating motion of the brush, or equivalent therefor, substantially as described, for discharging the paper tubes when completed.

Third, the combination of the rotating mandrel and pressure roller, to roll up the paper with the rotating brush, substantially as described, whereby the end of the paper when introduced is caused to lap around on the mandrel, as set forth.

Fourth, the reciprocating nippers, in combination with the rotating mandrel, substantially as described, and for the purpose of properly presenting the paper to the mandrel, as set forth.

Fifth, the combination of the shears, or the equivalent thereof, substantially as described, to cut off the length of paper required for each tube, with the feeding mechanism for moving the sheet of paper, and the mandrel for winding up the paper, as set forth.

Sixth, the combination of the rollers for feeding the paper and applying paste thereto, the vibrating roller for distributing the paste on the face of the paper, and the mandrel for forming the paper tubes, substantially as described.

Seventh, the combination of the rollers for feeding and applying paste to the paper; the roller for distributing the paste; the shears for cutting off the length of paper required for each roll, the reciprocating pincers, and the mandrel for winding up the paper, or the equivalents of all or any of them, as described.

No. 50,205.—SIDNEY MALTBY and CHARLES OSBORN, Dayton, Ohio, assignors to themselves and WILLIAM H. CLARK, Cincinnati, Ohio.—*Injector for Steam Boilers.*—September 26, 1865.—This invention consists in providing a jacket for the injector through which the water to be injected into the boiler is made to pass, for the purpose of keeping the temperature so low that the injector will commence to operate as soon as the steam is applied. To accomplish this result the jacket is connected to reservoirs which are provided with valves and cocks for regulating the supply of water, and it is also provided with rotating valves for the purpose of regulating the amount of steam to be admitted. Its novelty further consists in combining a float which is placed in the boiler with the injector in such a manner that the injector is operated automatically according to the varying requirements of the boiler.

Claim.—First, the valve E, the nozzle G, the packing ring F, the nozzle H, the cap D, and cylinder S, constructed and arranged substantially as described and for the purposes set forth.

Second, the arrangement of the nozzle L, the waste cock 3, the flange V, the lock-nut W, and the cylinder S, substantially as described.

Third, the supplementary valve *x*, attached to a check valve, substantially as described, and for the purposes set forth.

Fourth, the arrangement of the hollow vessel K, the check valve 5, or its equivalent, and the vent cock 4, for the purposes specified.

Fifth, the arrangement of the hollow vessel B, the pipe A, and stop cocks 1 and 2, for the purposes specified.

Sixth, the adjusting index, in combination with the steam injector, for the purposes set forth.

Seventh, the float 12, in combination with the valves of the injector, for the purposes specified.

Eighth, the arrangement of the water jackets T and U, substantially as described, and for the purposes set forth.

Ninth, a water jacket, when applied to a steam injector, substantially as and for the purpose described.

No. 50,206.—GRIFFITH MURPHY, assignor to himself and W. D. SLACK, Lewisburg, Penn.—*Harvesting Machine.*—September 26, 1865.—This invention consists in constructing the frame in two sections, one in front and the other in the rear, which are combined with the main axle and with each other, in such a manner that they will move with, or independently of, the axle, and with, or independently of, each other; and also in the combination therewith of the gearing which drives the cutters.

Claim.—In combination with the axle of the machine, the main frame, composed of the two sections, and united or connected therewith, substantially as and for the purpose described.

Also, in combination with the axle and the two sectional frames connected therewith, as herein represented, the arrangement of the driving gear, as herein described and set forth.

No. 50,207.—C. C. PHELPS, assignor to GEORGE G. CAMPBELL, Janesville, Wis.—*Washing Machine.*—September 26, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The combination of the oscillating presser or rubber C C, when constructed with vertical curved bars P, and horizontal ones *l*, and the corrugated piece E′, with the corrugated bottom piece E, and parallel side bars F, the whole constructed and operating substantially as described, and for the purpose set forth.

No. 50,208.—CHRISTIAN C. SCHMIDT, assignor to himself and BROTHERS, New York, N. Y.—*Steam Pressure Gauge.*—September 26, 1865.—The novelty of this invention consists in a continuous oblong spring, constructed thicker at the point of communication with the hollow joint, than throughout its length, and its combination with the quadrant-shaped rack and indicator.

Claim.—The continuous endless oblong spring, for the purposes hereinbefore set forth.

Also, the construction of the spring thicker at its shank or point of connection with the hollow joint than throughout its length, whereby to give more support to the spring, for the purposes hereinbefore set forth.

Also, the hollow endless spring, hereinbefore described, in combination with the quadrant-shaped rack and indicator, for the purpose of registering the pressure of steam in steam generators, substantially as hereinbefore set forth.

No. 50,209.—ALEXANDER SELKIRK, Albany, N. Y., assignor to ELIZA J. SELKIRK, of same place.—*Carriage Spring.*—September 26, 1865.—The object of this invention is to prevent the straining or breaking of elliptic springs in carriages, in the rebound of the vehicle; and this object is accomplished by connecting the upper and lower parts of such a spring by means of two metal arms, one attached to the upper part by its upper end, and the other to the lower part by its lower end. The other ends of the two arms are connected so as to form a transverse tie across the spring.

Claim.—The levers D and E, formed as described, and fitted with India-rubber springs S and *t*, in combination with the elliptic springs C1 and C2, substantially as set forth in the above specification.

No. 50,210.—S. H. WHEELER, Dowagiac, Mich., assignor to himself, A. G. TOWNSEND, JAMES STILLWELL, R. HEDDON, E. P. TOWNSEND, C. T. LEE, and J. SULLIVAN.—*Horse Hay Fork.*—September 26, 1865.—This invention consists in the use of two forks, connected by means of suspension rods in such a manner that they can be grasped and thrust into a mass of hay like an ordinary pitchfork, and then united so that the load on both forks can be elevated to the desired point, after which the forks can be separated in such manner that they will tilt and discharge the load.

Claim.—First, the combination of two forks A A′, provided with the suspension bails B B′, and pivot connection C, and a tripping and retaining device *d e g*, substantially as described.

Second, suspending the forks A A′, which have handles *c c′*, at a point above the upper extremities of said handles, by means of bails which are pivoted to the two forks, and which connect these forks together, substantially as described.

Third, the yoke *f* and yoke *e*, in combination with the latch *d*, applied to the handle *c′* ot the fork A′, and adapted to receive and hold the handle of fork A, substantially in the manner and for the purposes described.

No. 50,211.—EVAN LEIGH, Manchester, Eng.—*Carding Engine.*—September 26, 1865.—In this invention the flats of the endless chain of self stripping top cards are so hung upon their axes, by means of set screws passing through bushed links, that they can accommodate themselves to the necessary angle of the surface of the main cylinder, required whilst traversing over the cylinder. The stripping box is supported on arms hinged from the same bracket that supports the stripping-comb shaft, by which means the bottom end of the stripping-box comes nearer to the doffer, and prevents the collection of waste between them.

Claim.—First, the peculiar construction, shown and described, of an endless chain of flats or top cards, being self-stripping, and to which any definite angle of the periphery of the main carding cylinder, when at work, can be given.

Second, the bushed chain, by which the flats are hung or suspended in such a way that the pressure of their own weight is received by the chain-bushes, and the flats are allowed to swivel freely and adjust themselves to any angle to the surface of the main carding cylinder they may have been cut for.

Third, the general arrangement and combination of all the parts as herein described and illustrated in the accompanying sheet of drawings.

No. 50,212.—JEAN BAPTISTE, JAVA MIGNON and STANISLAS HENRI ROUART, Paris, France.—*Apparatus for Freezing Liquids.*—September 26, 1865.—This invention consists of a boiler, surmounted by a cylindrical chamber, which is connected with the congealing apparatus by means of a tube. In the chamber is a plate, carrying two valves, one located at the extremity of an upright tube, and another placed on the end of a tube which constitutes a syphon. The apparatus is put in operation by filling the boiler with ammonia in solution in water, and placing the boiler over a fire. The congealing vessel is placed in cold water, and the gas generated in the boiler passed in the congealing vessel, where it is condensed. The boiler is then removed from the fire and placed in cold water, which causes a diminution of the pressure in the boiler, the liquefied ammoniacal gas in the congealing vessel is volatilized, and passes back into the boiler, where it is absorbed. The volatilization of the liquified gas in the congealing vessel causes intense cold, which may be used to freeze water in the vessel or to cool a non-freezing liquid, which in turn may be used for freezing or cooling.

Claim.—First, the general construction and arrangement or combination of apparatus having continuous action.

Second, the general construction and arrangement or combination of apparatus having intermittent action.

Third, the particular construction and arrangement of the pumps, stop-cocks, distributor, and safety valve, all as herein shown and described.

No. 50,213.—JOHN MILLER, Russelville, Ky.—*Seed Planter.*—September 26, 1865.—This invention consists in surrounding the seed openings in the bottom of the seed box with a circle of bristles, the projecting ends of which are cut concave in one direction so as to neatly fit the seeding roller. The seed consequently rests continually upon the roller, and the seed cups are filled as the roller revolves. Other devices for mellowing the ground, opening furrows for the seed, and rollers for smoothing the ground, are claimed in combination with the above.

Claim.—First, surrounding the openings in the grain trough with bristles, arranged and operating substantially in the manner set forth.

Second, the combination of the feed roller with the feed tubes and bristled opening, for the purpose of sowing broadcast or in drills, substantially as described.

Third, the combination of the harrow, ploughs, seed tubes, covering bars, and smoothing roller with the feed roller and bristled seed trough, arranged and operating substantially in the manner and for the purpose described.

No. 50,214.—CHARLES H. AMIDON, Greenfield, Mass.—*Bit Stock.*—October 3, 1865.—This invention consists of a bit stock having a long slot or mortise through the shaft of the brace, at right angles with which are two jaws or bit holders bent in form to grasp the bit below the shank. In the mortise is a sliding screw with a square mortise cut in its lower edge to receive the end of the bit shank, and over the bit holder is a sleeve with a female screw thread cut in its bore, which when turned down on the screw on the sliding nut in the shaft of the brace forces the bit holder to grasp the bit and at the same time draws the nut down, so that the bit is inserted in the mortise and held firmly in its place.

Claim.—The combination of the movable screw socket A, jaws B B, and sleeve C with a bit stock, when constructed and operating substantially as described.

No. 50,215.—R. W. ANDREWS, Staffordville, Conn.—*Loom.*—October 3, 1865.—This invention is designed to prevent a too sharp recoil of the picker staff, and thus avoid the liability of the shuttle being thrown from its box; friction springs are therefore so arranged in connection either with the shuttle boxes, or with the picker staffs, or with both, as to cause the staves to be brought to a gradual termination of their outward movements without much if any recoil.

Claim.—The arrangement of one or more elastic friction plates, or their equivalents, with the shuttle boxes of looms in such a manner with relation to the picker staffs or picker blocks of said looms as to produce the within described desirable results, and in substantially the manner herein set forth.

No. 50,216.—GEORGE ASMUS, Portage, Mich.—*Stove Damper.*—October 3, 1865.—This invention consists in the arrangement of a hinged damper and slip weight, in combination with the inclined face of the draught pole of a heat generator, in such a manner that the draught of air rushing into the fireplace of the heat generator has a tendency to close said hinged chamber, whereas the gravity of the damper combined with the slip weight has a tendency to keep the same open, and that by adjusting the position of said slip weight the quantity of air admitted to the fireplace can be regulated at pleasure.

Claim.—As a new article of manufacture the hinged damper and slip weight adjustable on the bar C, in combination with the inclined face of the draught channel A of a heat generator, constructed and operating substantially as and for the purpose set forth.

Also, the curve *a* in the bar C, in combination with the weight D, hinged damper B, and draught channel A, constructed and operating substantially as and for the purpose described.

No. 50,217.—ANDREW BOUTON, Napa, Cal.—*Cultivator.*—October 3, 1865.—This invention consists in connecting together two cultivators, a right-hand and a left-hand one by means of extension bars, and having a draught chain applied to the front ends of the beams of the cultivators.

Claim.—The right and left cultivators A A supported by the caster wheel F and adjustable wheels B, and connected by transverse bars G, all arranged substantially as and for the purpose herein set forth.

No. 50,218.—ADAM S. CAMERON, New York, N. Y.—*Valve Gear for Steam Engines.*—October 3, 1865.—This invention is designed as an improvement in the valve gear of steam engines, whereby the valves are to be reversed with certainty and accuracy; it consists in the combination of the valve chambers, valves, heads of the main cylinder, supplementary cylinders, pistons, and the slide valve.

Claim.—The valve chamber H H′, and valves I I′, in the heads of the main cylinder A, in combination with the supplementary cylinders E E, pistons F F, and slide valve C, constructed and operating substantially as and for the purpose described.

No. 50,219.—WILLIAM CHESLEY, Cincinnati, Ohio.—*Globe Valve.*—October 3, 1865.—In this invention the lower part of the valve stem is smooth, the screw working in the cap and the stuffing box being below. When the cap is removed the valve may be ground upon its seat with accuracy and facility.

Claim.—A globe valve, the part of whose stem below the stuffing chamber is smooth, to fit the correspondingly smooth interior of the tube, and the portion of whose stem above the stuffing chamber is partly screw-threaded and partly smooth, so as to co-operate with the interiorly screw-threaded cap of the stuffing box, in the manner explained.

No. 50,220.—JOHN CHILCOTT, Brooklyn, N. Y.—*Mode of Revivifying Loam Luting.*—October 3, 1865; antedated September 22, 1865.—This invention consists in grinding luting that has been used and mixing it with water to render it plastic. Fresh loam is added to the spent luting thus prepared in proportions varying from five to seventy-five per cent. as may be required.

Claim.—The revivification of spent loam luting by the addition of fresh loam, substantially as herein specified.

No. 50,221.—JOHN CHILCOTT, Brooklyn, N. Y.—*Setting Steam Boilers.*—October 3, 1865; antedated September 18, 1865.—In this invention there is a continuous system of flues for the products of combustion extending forward and back from end to end of the apparatus, between the several sets of horizontal water pipes and through convenient openings in central partitions, and up through each set of pipes over the top, and thence many times between the double walls around the sides and back to the exit pipe near the bottom. A direct passage from fire chamber to exit pipe may be had by opening a damper in the rear. A central cast iron partition divides the water pipes.

Claim.—First, the arrangement of water and steam tubes A A1 A2 A3, partitions E F F1 F2 F3, and flues D D1 G G1 G2, substantially as herein specified, whereby a horizontal and vertical circulation of the gases of combustion between the tubes is provided for.

Second, providing in the top, sides, and back of the outside setting of a boiler a continuous system of flues I I and J J, whereby the gaseous products of combustion are caused to circulate many times back and forth through the setting, substantially as herein specified.

No. 50,222.—ORSON A. COE, Charleston, Ohio.—*Process for Tanning.*—October 3, 1865.—This invention consists in subjecting the hides to the action of the following compositions: 1st. Warm water, potatoes, rye or bran, salt, and oxalic acid. For heavy hides a composition of extract of sumac, catechu, and kino is added to the above. 2d. Soft water, slacked lime, wood ashes. 3d. Soft water, fermented bran liquor, and sour milk.

Claim.—First, the first solution herein described and composed of the ingredients described under No. 1, and employed for tanning skins with the wool, hair, or fur on.

Second, the combination of the first and second solutions, made and used substantially as and for the purpose specified.

Third, the combination of the first, second, and third solutions, all made and used substantially as and for the purpose described.

No. 50,223.—A. P CONANT, Smithland, Ky.—*Saw Mill.*—October 3, 1865.—This invention consists in the arrangement of two dogs that hold the log while it is being sawed, and consists in two dogs being adjustable to the log by means of an adjustable screw passing through the dog heads. Two parallel rods also pass through the dog heads to keep them firm in position and all turn or swing upon an upright rod passing through a swinging head, and are again adjusted by a screw rod passing through the swinging head and bearing on the top of the head block.

Claim.—The vertical adjustable revolving head E provided with guide rods *f* and screw spindle *g*, in combination with dogs F, and with the head block A of a sawing machine, constructed and operating substantially as and for the purpose set forth.

No. 50,224.—SILAS CRISPIN, New York, N. Y.—*Revolving Fire-arm.*—October 3, 1865.—In this invention the pistol is divided transversely through the frame and revolving cylinder, the barrel portion swinging from the stock or handle portion on a hinge joint, each portion carrying a portion of the divided cylinder, which is attached to it by its own section of the centre pin. The arm is designed for cartridges which contain the fulminate in a flange or rib intermediately between the base and the ball, the hammer striking at the intersection of the cylinder.

Claim.—The application to a revolver having its barrel swinging from the frame by a hinge joint, of a tranversely divided cylinder, when one section thereof is connected to the swinging barrel and the other section to the stock or frame, each being retained by its own section of the centre pin, in the manner shown and described.

No. 50,225.—C. O. CROSBY, New Haven, Conn.—*Sewing Machine for Making Ruffled Fabrics.*—October 3, 1865.—In this invention a sliding thread carrier above the table delivers a thread alternately on both sides of the perforating needle, if two needles are used, the carrier having two threads. A clamp in the rear of the presser intermittently clamps the cloth to the table; the feed device during part of its movement gathers the cloth between the presser foot and this clamp, and at the same time a check is applied to the thread of the carrier to hold it firmly, so that the stitches will slip upon it in making the gather; the clamp then rises and the check is released and the feed carriers forward the fabric and the thread of the carrier to complete the feed movement.

Claim.—First, the combination of the check and carrier for the second thread, substantially as and for the purpose specified.

Second, the combination of the check and carrier for the second thread with a sewing mechanism, substantially as and for the purpose set forth.

Third, the combination of the carrier for the second thread, feeding mechanism and clamp, substantially as and for the purpose described.

No. 50,226.—DANIEL CROAK, Milwaukee, Wis.—*Construction of Sheet-metal Boxes.*—October 3, 1865.—This invention consists in forming a joint by cutting out recesses in each of two opposite ends of the band or strip forming the body of the box, the tongues left between in one end corresponding in position to the recesses in the other. The ends are then joined, the tongues of one passing through and inside of the corresponding recesses in the other

until their shoulders meet. A lock is formed by leaving the upper tongue larger than the corresponding recess, and slitting it on a line with the bottom of the recess, a corresponding slit being made in the adjoining tongue. Both the lips thus formed are turned up to pass each other and are then straightened out to their normal position.

Claim.—The constructing of sheet-metal boxes or cans with a seam, composed of lips or projections and notches at the ends of the plate forming the body of the box or can, and also with slots in order to form a locked joint, substantially as shown and described.

No. 50,227.—BENJAMIN F. DAY and CHAS. H. NELSON, Biddeford, Me.—*Picker for Looms.*—October 3, 1865.—This invention consists in using a metallic box of any suitable form to receive the leather or other substance composing the cushion of the picker.

Claim.—The box constructed as described and represented, having a means of attachment to the picker staff, an opening in its face to permit the nose of the shuttle to strike the contained disks, and an opening *c* at the top for the ready insertion and retraction of the cushion disks, as may be required.

No. 50,228.—CHARLES R. DEAN, Randolph, N. Y.—*Apparatus for Tanning.*—October 3, 1865.—This invention consists of an ordinary tanning vat provided with a hollow revolving cylinder formed of slots and divided into compartments. The hides are placed in the compartments and the cylinder caused to revolve thus bringing the tanning liquor in close contact with every portion of the hides.

Claim.—The construction of a hollow cylinder, or its equivalent, with slots, or their equivalent, and compartments and the application thereof in the process of tanning, substantially as above described.

No. 50,229.—ISAAC DUNHAM, Lanesfield, Kansas.—*Cultivator.*—October 3, 1865.—This invention consists in the arrangement of the several parts in their relation to the frame and running gear, by which it may be used as a plough, cultivator, or seeder.

Claim.—The arrangement and combination of the several parts, substantially as described, in their relation to the frame and running gear, whereby the machine is adapted to the different kinds of work, as explained.

No. 50,230.—EZRA DEWS, South Britain, Conn.—*Spinning Jack.*—October 3. 1865.—The object of this invention is to apply friction to the driving pulley by partially sliding the belt upon it from the loose pulley, and so assisting the spinner in winding the yarn upon the bobbins. Whenever the spinner applies the faller or copping wire to the threads, the catch is sprung and by the action of the spring rod thus released. The belt is shifted more or less as may be desired, according to the position of the regulating screw.

Claim.—The longitudinally sliding rod A, connected to the cam lever B *d*, in combination with the belt shipper *k*, and catch *l*, operated by the faller or copping wire of a spinning jack, substantially as and for the purpose set forth.

No. 50,231.—ALBERT S. DUNHAM, Taunton, Mass.—*Cook Stove.*—October 3, 1865.—In this invention air is drawn through apertures at each side of the stove, and near the top of the fire box, and by passages at its side to the chamber near the top of the stove, and thence it circulates through flues around the back of the oven, and through the double-cased doors around the oven; suitable dampers being arranged to change the flow at will. In the back side and in the top of the oven are apertures, which, with the oven doors, may be opened when the stove is used for heating.

Claim.—First, the construction of the air chambers, and placing them at each side and at the top of the fire box, to draw in the pure air to be heated and conveyed into the oven or through between the plates of the oven doors, as herein described, for the purposes set forth.

Second, the arrangement of the air chambers, flues and dampers, whereby the atmospheric air can be heated and circulated without becoming impregnated with the gases from the fuel, to facilitate baking in cook stoves, as herein described.

No. 50,232.—WILLIAM H. ELLIOT, Ilion, N. Y.—*Many-barreled Fire-arm.*—October 3, 1865.—This invention relates to the lock, for discharging a series or cluster of stationary barrels, and it consists in providing a series of percussions pins, one for each chamber, and so arranged that by means of a rotating cam or trip-wheel each one is separately brought under the action of the hammer, so as to fire the several barrels singly and in succession.

Claim.—First, in a many-barreled arm, in which a separate firing point or pin is employed for each chamber, so constructing and operating said pins in relation to the hammer that only one of them will be driving forward at a time, as herein shown.

Second, the combination of the cam and firing pins, for the purpose of throwing one or the other of said pins before the hammer, as herein set forth.

Third, the angular pin *n*, in combination with the reflecting surfaces *n*, for the purpose herein set forth.

No. 50,233.—J. H. FERGUSON, Springfield, Mass.—*Lubricator.*—October 3, 1865.—In this invention the oil cup is fixed in position above the journal, a spindle screwing through its

top, and descending to connect with a plug in the narrow way leading to the journal. This plug has a channel descending obliquely near the top, and thence vertically towards the bottom, from which a tapering tongue descends through a coiled spring. to deliver oil upon the journal.

Claim.—First, the lateral passage *a*, and its triangular groove in the valve plug, and the vertical passage *g* in the bottom of the plug, in combination with the screw thread, by means of which the plug is adjusted, substantially as above described.

Second, the finger G, arranged with and projecting downward below the plug D, constructed and operating substantially as above described.

No. 50,234.—BENJAMIN S. FLETCHER, Cornish Flat, N. H.—*Washing Machine.*—October 3, 1865.—This invention consists in providing means whereby the beaters of a washing machine may be made to work at any desired distance from the end of the box or tub, and thereby adapting them to the quantity and sizes of the clothing to be washed, and also for regulating the movements of the beaters at the operator's will.

Claim.—The movable slotted blocks *a a a*, the screws B B B, and the set screw C, constructed, combined, and arranged substantially as described, for the purposes specified.

No. 50,235.—JACOB FRICKER, Cincinnati, Ohio.—*Fire Plug.*—October 3, 1865.—In this invention the valve at the base is formed of two hollow truncated cones, one fitting within the other, the outer being fixed in its position, and the inner revolving in obedience to the key rod entering it from above. The two cones are slotted longitudinally. When the slots are coincident the water flows up around the key rod. A hole in the inner cone, or the plug, and connecting with an opening in the base, leading out to the periphery, permits the regurgitation of the water above the valve, to prevent freezing; but as this is not required in summer, the winch at the top may be so set as to permit the operation of the valves without exposing this hole at the valve opening.

Claim.—As new the reversible plug B, provided with a waste way C, in the described combination with the drip hole D, and stops G G, or devices substantially equivalent, for the purposes described.

No. 50,236.—JAMES FULTON, Zanesville, Ohio.—*Wooden-soled Boot and Shoe.*—October 3, 1865.—This invention consists in the combination of a double wooden sole with a double flexible shank joined to the inner and outer parts of the sole at one end, and at the other end to the outer heel and the inner heel or heel-piece.

Claim.—First, an improvement in the manufacture of boots and shoes having a double, that is to say, an inner and an outer wooden sole, by combining the wooden sole with a double flexible shank joined to the outer and inner parts of the wooden sole at one end, and at the other to the outer and inner parts of the heel, or as the manufacturer may prefer, having the inner thickness of the shank extended so far back as to make an inner heel or heel-piece, admitting the edge of the upper of the boot or shoe to be fastened between the inner and outer soles, and between the inner and outer shank and the inner and outer heel or heel-piece, substantially as hereinbefore described.

Second, the combination of the flexible shank with the double wooden soles, substantially as herein described.

No. 50,237.—JOHN G. GANSZ and JACOB J. SAVO, St. Louis, Mo.—*Composition for Removing Incrustation from Boilers.*—October 3, 1865.—This invention consists of a composition of chloride of iron, chloride of barium, sal ammoniac, sugar, and concentrated lye.

Claim.—A chemical compound for removing incrustation on boilers, which compound is composed of the ingredients mentioned in the foregoing specification, united and mixed together in the proportions specified, or their equivalents.

No. 50,238.—SMITH GARDNER, New York, N. Y.—*Rendering Casks Oil-proof.*—October 3, 1865; antedated September 23, 1865.—This invention consists in forcing a solution of sulphate of iron into the pores of the wood, and then treating the barrel with a solution of muriate of lime, or with lime water.

Claim.—Rendering casks impervious to spirits of turpentine, petroleum, and like substances, by impregnating them with sulphate of iron and muriate of lime, as aforesaid, and for the purposes herein set forth.

No. 50,239.—WESSELL S. GERARD, Newburg, N. Y.—*Combined Shutter Hinge and Fastening.*—October 3, 1865.—This invention consists in combining a fastening with a shutter hinge in such a manner that the shutter, when thrown open, will be secured in an open state, and the fastening be capable of being readily adjusted so as to release the shutter, and admit of its being closed.

Claim.—The catch or fastening B, when fitted within a socket *d*, and applied to a shutter hinge, substantially in the manner herein shown and described.

No. 50,240.—JOHN GOULDING, Worcester, Mass.—*Bobbin Holder for Spinning.*—October 3, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The device herein described for holding bobbins upon spindles, the same consisting of two or more centrally bulging springs, secured, as described and shown, into a seat or base fitting the spindle.

No. 50,241.—JOHN GOULDING, Worcester, Mass.—*Bobbin Holder for Spinning.*—October 3, 1865.—This invention for holding bobbins upon spindles consists of a long tube or spring so constructed as to afford sufficient support to the bobbin holder.

Claim.—The combination with the spindle A of the bobbin holder C, when constructed with a long tube or spring *c*, which serves as the only support to the bobbin holder, as set forth.

No. 50,242.—B. J. GREELY, New York, N. Y.—*Pantaloons.*—October 3, 1865.—In this invention there is no waistband, the front part of the body being made with an inner and outer lapel, the outer one folding over the inner one, and both being drawn out to and kept in their proper position by means of elastic straps made fast to the band at opposite sides; the strap which holds the inside lapel being attached to the inside of the band, and the other strap to the outside.

Claim.—Forming the fronts and also the backs of pantaloons with lapels, as shown, and holding them in place by means of elastic straps, substantially as shown.

No. 50,243.—ALEXANDER HAMILL, sr., and ROBERT J. B. HAMILL, Baltimore, Md.—*Railroad Rail.*—October 3, 1865.—This invention consists in forming on the under side of the rail permanent and solid arms which project downward through the cross-ties, having slots at the lower end into which, and under the tie, wedges are driven to hold the rail securely, and thus dispense with spikes.

Claim.—The arrangement and combination of the tenons B and keys D with the rails, as herein described, for the purpose of fastening the rails more permanently and securely to the cross-ties, and dispensing with the use of spikes.

No. 50,244.—E. C. HASERICK, Lake Village, N. H.—*Stump Extractor.*—October 3, 1865.—This invention consists in the application of a hydraulic apparatus, similar to that used in the hydraulic press, to a strongly built carriage, provided at one side with a tank for the conveyance of water, for the purpose of extracting stumps, &c. The axles of the carriage are provided with screw-jacks, in order that they may be raised up when great pressure is applied to the carriage so as to relieve the wheels.

Claim.—The application to a carriage or mounted truck of an hydraulic apparatus, constructed and arranged as described, with a water tank and a lifting frame, or its equivalent, for the purpose of raising heavy bodies, extracting stumps, &c., and transporting the same when desired, substantially as set forth.

Also, the screw-jacks D, when arranged and applied to the axles, in the manner substantially as and for the purpose herein specified.

No. 50,245.—HORATIO J. HEWITT, Brooklyn, N. Y.—*Script Printing Type.*—October 3, 1865.—This invention consists in reducing the width of the body of a type below that of the top, or head, so that what is termed a "kern" projects from the top of the type. By this construction it is claimed that a saving of one-third of the type metal may be effected, and more matter inserted in the same space.

Claim.—Reducing or forming the body of script printing type so as to make the extending letters with a kern to project over the body of the type, and between the extended letters of the lines next above and below, substantially as and for the purpose described.

No. 50,246.—A. P. HINES, Washington, D. C.—*Corn Planter.*—October 3, 1865.—In this machine when the seed slide is forced back by the spring on the rear, a portion of it acts as a feeder for the seed cell. This seed slide is operated by the draught wheel which communicates its motion by pins upon its inner ring that strikes upon a short lever. A wire extending from the short lever, over the hopper to a cross-bar, and fastened by an elastic band keeps the lever in position to receive the action of the wheel.

Claim.—The slide valve *q*, rod *i*, spring *x*, in combination with valve *m*, plates N and O, spout or seed duct S, groove *y*, and frames H, in valve *m*.

Also, rubber or spring *a*, rod F, in combination with lever E, and the inner ring of wheels C, provided with pins *d d d*, to operate on the lever.

Also, the arrangement of two or more shelves in hopper, said shelves slanting upward that the corn or other seed in hopper, at the least motion of the machine, will fall off into the bottom of the hopper, the whole constructed and operated in the manner and for the purposes herein set forth.

No. 50,247.—ALONZO HITCHCOCK, New York, N. Y.—*Roller-crushing Machine.*—October 3, 1865; antedated September 23, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The construction of the rollers in reversible half lengths or sections, substantially in the manner described.

No. 50,248.—HENRY HOLCROFT and C. S. SMITH, Media, Penn.—*Brakes for Carts.*—October 3, 1865.—This invention consists in an arrangement of levers whereby the brake shoes are brought into contact with the wheels and at the same time the rear of the cart body is drawn down, the front raised from the thills, and the body caused to balance upon the axle for the purpose of relieving the horse of the weight of the load in descending hills.

Cloim.—First, the liberation of the cart body from the thills or shafts, by the same arrangement and at the same time the brakes are put into action, as above described, or an equivalent arrangement of the same.

Second, the pieces B B, supported by the shaft *f* and chains *o*, as and for the above-described purpose.

No. 50,249.--P. B. HOLMES, New York, N. Y.—*Caster for Furniture.*—October 3, 1865.—This invention consists in the construction of a caster, to be used in such a manner that the strength of the legs will not in the least degree be weakened thereby, while at the same time they can be securely fastened with the horn of the caster, and free to swing.

Claim.—The combination with the roller horn of a caster of the plate *c*, with its hollow shaft or bushing *f*, as a centre or bearing for the horn to turn upon, substantially as herein described and for the purpose specified.

No. 50,250.—J. H. IRWIN, Chicago, Ill.—*Apparatus for Carburetting Air.*—October 3, 1865.—This invention consists in surrounding and enclosing the vessel containing the hydro-carbon liquid with a case and admitting thereto heated air around the carburetting vessel, so that the heavier hydro-carbons may be vaporized.

Claim.—The application of heated air to a carburetting apparatus, when arranged within an enclosing case, substantially as and for the purposes specified and shown.

No. 50.251.—J. H. IRWIN, Chicago, Ill.—*Apparatus for Carburetting Air.*—October 3, 1865.—This invention consists of a carburetter, provided with a frame, which contains a fan, and the machinery to put it into operation. A pipe conducts the air to the carburetter. The hydro-carbon liquid is pumped up through the pipe, forming the vessel D into a carburetter; there is also a pipe for returning the liquid to the vessel, when desired. A pipe is provided for drawing off the carburetted air.

Claim.—First, in combination with a carburetting apparatus, arranged with respect to the burners which it supplies with gas, substantially as herein described, any mechanical device so arranged as to force a current of air into said carburetter, substantially in the manner set forth.

Second, a carburetting apparatus and a mechanical device for forcing a current of air into the same, when so constructed and combined that the carburetting apparatus will generate gas and supply the burners when the mechanical device is not in operation.

No. 50,252.—GEORGE MARSHALL, Brooklyn, N. Y.—*Last.*—October 3, 1865.—This invention consists of an iron last made with a sole, socket, and strengthening rib for clinching nails in boots and shoes, and breaking down the points of inwardly projecting pegs.

Claim.—A cast-iron last, made with a sole A, socket B, and strengthening rib C, substantially as herein described.

No. 50,253.—D. W. G. HUMPHREY, Chelsea, Mass.—*Button-hole Sewing Machine.*—October 3, 1865.—This invention can only be clearly understood by reference to the specification and drawings.

Claim.—First, the mode of clamping and holding back the needle thread that the needle may draw the loop tight which was formed at the previous operation, in combination with the double-acting cam, which makes the duration of the griping operation different when the needle descends through the cloth than when it descends in the slit, or by the edge of the button hole, substantially as and for the purpose specified.

Second, holding the clamp down to the face of the table by a button, or the equivalent thereof, which, at the same time, acts as a guide for the motions of the clamp, substantially as described.

Third, making the curved part of the slot in the table in which the pin of the clamp works, eccentric to the button, which acts as a guide to the motions of the clamp, substantially as described, to admit of the required lateral motion to work the eyelets in button holes, as described.

Fourth, making the pin of the clamp, by which the required motions are communicated to the clamp, so that it can slide up and down therein, in combination with the button that holds the clamp down to the table, substantially as described, so that the clamp can be removed from the table by drawing the pin up out of the groove in the feeding ring, and out of the slot in the table, as described.

Fifth, the springs for spreading the cloth, in combination with the clamp, substantially as described.

Sixth, in combination with the feeding mechanism and the clamp, the stop lever for supporting the feed motion when the button hole is finished, as described.

No. 50,254.—H. MARANVILLE, Akron, Ohio.—*Portable Scales.*—October 3, 1865.—This invention consists in the combination of an office rule and a pair of scales for weighing in troy, apothecaries', or very light articles in avoirdupois weight, such as letters. The instrument is made in sections, which, when folded, form the ruler, and also a case for the scales. and when unfolded the scales.

Claim.—First, the standards B′ and C, pivoted or hinged to the rule, in combination with the spring hooks *b b′*, as and for the purpose set forth.

Second, the lips *c′ c′*, plate D, openings *c c*, in combination with the scale beam A′, pendulum E, and standard B′, as and for the purpose set forth.

Third, the springs *f*, platform F, catch *j*, pendulum E, and plate D, constructed and arranged as and for the purpose set forth.

No. 50,255.—JOHN MATTHEWS, Jr., New York, N. Y.—*Soda Water Apparatus.*—October 3, 1865.—This invention consists of a box divided into three compartments, in one of which the soda-water cooler is placed, the said cooler consisting of a series of chambers, closed at the top and open at the bottom, placed over pipes, and secured in the frame by means of screws. One apartment contains ice, and one the sirup coolers, with openings controlled by a valve; below is a chamber for the tumblers.

Claim.—First, the soda-water cooler, consisting of one or more open-bottomed and close-topped vessels B B, fitted and secured in a frame C D E, within the cooling chamber, and having inlet and outlet pipes *j k*, applied and arranged for the circulation of the soda water through them, substantially as herein described.

Second, the arrangement of the sirup-cooling chamber *g*, soda-water cooling chambers *e*, ice chambers *f*, and communications *y* and *v*, within the case or box A of the draught apparatus, substantially as and for the purpose herein specified.

Third, the tumbler chamber *h*, arranged within the box or case A of the draught apparatus, below the cooling chamber *g*, which contains the sirup vessels, substantially as and for the purpose herein set forth.

Fourth, the sirup vessels F, having their outlets at the bottom, in communication with openings in the bottom of their containing chamber, substantially as herein specified, whereby their removal is facilitated.

No. 50,256.—F. J. MAY, New York, N. Y.—*Milk Pan.*—October 3, 1865.—This invention consists in the use of two pans, one within the other, the inner pan being provided with a perforated bottom, to serve as a strainer or skimmer; the milk is poured into the two pans, and after the cream rises the inner pan is lifted, taking up the cream and leaving the milk in the lower pan.

Claim.—The two pans A B, fitted one within the other, and the inner pan provided with a perforated bottom or strainer *b*, all arranged substantially as and for the purpose set forth.

No. 50,257.—ROBERT MCCORKLE, Philadelphia, Penn.—*Cultivator.*—October 3, 1865.—This invention consists in the adjustment of the intermediate ploughs, by means of a hand and elbow levers having notches on their ends, which engage with each other, and a couple of plates, one on each side of the levers, and each having one end provided with a pin or projection, working in slots, in the opposite ends of the elbow levers to where the notches are made. The plates are attached to the front part of the machine by bolts and nuts, and allowed to vibrate thereon, with every movement given by the hand lever, and consequently gives the plough a lateral adjustment. The standards are attached to the beams by means of screw bolts and nuts, one end of each bolt having a collar thereon, between which and the standard a piece of India-rubber is placed, whereby the standards are allowed to yield when they strike any obstruction in the way while ploughing.

Claim.—First, the metal pieces F, provided with the horizontal flange *a*, recessed to receive and hold the bolt *c*, and having the lugs or projections *b*, for the purpose of attaching the drag bars D to the slotted bar A, and adjusting the same therein, as set forth.

Second, the plates G and H, constructed and arranged to operate in combination with the drag bars D, as and for the purposes set forth.

Third, the plate I, in combination with the elbow levers L, and plates G, for the purpose of moving the ploughs I I, as herein described.

Fourth, the rubber disk, or its equivalent, in combination with the standard *n*, and head R, of the drag bar, when constructed and arranged to operate as and for the purpose set forth.

No. 50,258.—WM. MCILVAIN, Philadelphia, Penn.—*Grate for Stoves.*—October 3, 1865.—In this invention the front of the grate is composed of several horizontal bars, which have tooth-like projections on the under side; upon any one of these bars the grate can be slid into the fire chambers, where it will be held in position by the projections from the next bar above, acting on the lip of the grate. The chamber may be made deep or shallow, as desired.

Claim.—First, adjusting the grates D at different altitudes in the fire chamber, by means of the bars B, with the vertical projections *a*, substantially as described and for the purpose specified.

Second, constructing the front bars of the grates D with the lips *d*, and the grooves *e*, substantially in the manner and for the purposes set forth.

No. 50,259.—WILLIAM R. MEARS, Grafton, Ill.—*Roller and Harrow Combined.*—October 3, 1865.—This invention consists in a combination and arrangement of levers, connecting bars, and stay rods and rollers with the frame of the machine.

Claim.—First, the combination and arrangement of the levers *m m'*, connecting bars *l l*, and stay bars *k k* with the harrow bars D D, and frame A, of my improved machine, all substantially in the manner and for the purpose herein described.

Second, the arrangement and combination with each other and with the frame A of the sectional rollers C C, and harrows D D, to constitute a combined roller and harrow, substantially as herein described.

No. 50,260.—MOVIUS J. MEYER, Washington, D. C —*Combined Latch and Bolt.*—October 3, 1865.—In this invention a square portion of the latch, near the bevelled end, passes through a short sectional tube, which is made to revolve within the outer cylindrical casing. The rear end of the latch, reduced in size, passes through a partition made across the enclosing tube, and is provided near its end with a cross-pin, which, as the latch is turned around, slides up the inclined sides of stubs or notches until the latch has been turned half round, when the cross-pin falls into a new position, and thus holds the latch with its bevel reversed.

Claim.—First, the bolt B, with the additional bevel P, on the projection *e*, and the rotating cylinder C, when arranged within a casing constructed and operating substantially as herein specified.

Second, in combination with the above, and with the tube A, and spiral spring E, the inclines *b b*, when constructed and operating substantially as and for the purposes herein set forth.

No. 50,261.—J. A. MINOR, Middletown, Conn.—*Umbrella Holder.*—October 3, 1865.—In this invention to sustain an open umbrella at any desired position and inclination in a carriage or boat, a perpendicular rod is fixed in place by a socket, clamp, or other means, to which rod a holder is attached by a sliding thimble made adjustable at any angle by a set screw.

Claim.—The combination of the adjustable sleeve *f*, and swinging frame or plate *h*, constructed and arranged together upon a common rod or staff, substantially as herein described and for the purposes specified.

Also, in combination with the above, the use of a supplementary sleeve *s*, for the purpose set forth.

No. 50,262.—CHAS. MONSON, New Haven, Conn.—*Hammer.*—October 3, 1865.—This invention consists in connecting the hammer to the handle by a link joint that allows the hammer to travel through a greater space than it can when connected to the handle in the usual way, the distance travelled by the hand being the same. A spiral spring is so attached as to be brought under tension by the upward movement of the hammer, and when brought down gives additional force to the blow.

Claim.—First, the application of a spring or springs, or their equivalent, to hammers and other similarly used instruments, constructed substantially as and for the purpose herein set forth.

Second, connecting hammers and similarly used instruments to the handle or shank thereof, substantially in the manner herein set forth, and either with or without the use of a spring, as described, or the equivalent therefor.

No. 50,263.—CHARLES MONSON, New Haven, Conn.—*Blasting Plug.*—October 3, 1865.—The object of this invention is to secure firmly the blasting plug, by means of a hinged connection, the parts above ground being pointed and curved in such a manner as to resist the force of powder upon the explosion of the blast.

Claim.—The combination of the plug A and bar or bars B constructed and united together by a joint, or its equivalent, substantially as and so as to operate in the manner and for the purpose herein set forth.

No. 50,264.—PETER W. NEEFUS, New York, N. Y.—*Row-lock.*—October 3, 1865.—In this invention the base plate is slotted, and has a chamber for the reception of the shank and legs. The combination of these devices constitutes the invention.

Claim.—The construction of the base plate B with its slots *b b* and socket and chamber for the reception of the shank of A, and the lugs *a a* and *a' a'*, constructed and combined substantially as and for the purpose specified.

No. 50,265.—DAVID M. NICHOLS, New York, N. Y.—*Blower for Steam Generators* —October 3, 1865.—This invention consists of a central conducting pipe with small radial pipes screwed into its sides in such a manner as to form a blower similar to a gridiron. This blower is combined with the chimney in such a way as to cause a strong draught through

the flues and up the chimney when the steam is applied to the blower, but leaves the natural draught uninterrupted when no steam is used.

Claim.—The combination of a chimney with a gridiron steam blower, constructed substantially as above set forth.

Also the gridiron steam blower composed of a series of straight perforated pipes extending crosswise to a distributing pipe, by which the perforated pipes are supplied with steam, substantially as set forth.

No. 50,266.—T. A. NIXON, Philadelphia, Penn.—*Boiler for Treating Straw.*—October 3, 1865.—This invention consists of a rotary tubular boiler having a fire chamber at one end, and a chamber at the other end. The fire chamber is pivoted with a roof, over which is a chamber communicating with a chimney. The heat passes through the tubes in the boiler below the level of the roof, and into the above-mentioned chamber, and then passes through those above said roof, into the chamber, and then into the chimney.

Claim.—First, the combination with a horizontal revolving boiler of tubes *c c*, through which the products of combustion are caused to pass, and which maintain the contents of the boiler in constant agitation, for the purpose specified.

Second, the revolving boiler A with its tubes *c c*, in combination with the fireplace C, and its roof *f*, the whole being arranged substantially as and for the purpose herein set forth.

No. 50,267.—B. M. NYCE, Cleveland, Ohio.—*Granary.*—October 3, 1865.—This invention consists in a mode of preserving grain, and other similar substances, by enclosing it in air-tight apartments, and abstracting the moisture from the surrounding air, within the closed room, by means of the use of bittern, the refuse matter from salt works.

Claim.—So constructing and arranging granaries and other buildings for similar purposes, whereby they are adapted to the employment or utilizing of waste bittern from salt works, within air-tight walls, substantially as described.

No. 50,268.—CLINTON J. PAINE, Painesville, Ohio.—*Cooking Stoves.*—October 3, 1865.—In this invention the oven is surrounded by a direct and double radiating flue. At the back and upper part of the combustion chamber is a small chamber through which air flows; this chamber is supplied from an aperture in the bottom plate of the stove and by suitable passages. To the back of the stove is applied galvanized sheet-iron and also to the doors, to the under plates of the stove and of the fire chamber. The circular gratings in the fire chamber are yoked together, and under the fire chamber a tin reflector may be so applied to the stove as to form an auxiliary oven.

Claim.—First, the special use of the direct heating and directly continuous flue C C C, constructed as shown in Fig. 3, so that the same is double radiating, or so that radiation of heat into the oven space or spaces is obtained from both its sides or surfaces, the same being constructed with angular or other turns, so as to form within its interior space a rectangular or other shaped chamber, constituting the oven proper, and located within the oven space of the stoves, in the manner shown and for the purposes set forth.

Second, the divided inlet and exit openings Q Q and Q′ Q′, in the plate B, in combination with the said flue C, as described, and for the purpose set forth.

Third, the special construction and use of the fire-draught device V, as described, and for the purposes set forth.

Fourth, adapting the heat-absorbing and heat-retaining principles of galvanized sheet-iron for forming the outside plates of my stove, by filling skeleton cast-iron frames therewith, and using them as walls interposed between the interior space thereof and the outer air, for the purpose of preventing the escape of the heated air therefrom, as herein explained.

Fifth, constructing the stove in the manner described, and in combination with the said galvanized sheet-iron surfaces, so that the spaces I1, I2, I3, and D1 D2 D3, are made available for the retention of hot air to act in conjunction with the heat of the direct flue C, as explained, and for the purposes stated.

Sixth, the aperture G, in combination with the foregoing hot-air spaces, for the purposes set forth.

Seventh, the gas-burner K, constructed with the depressions, as described, and in combination with the aperture J of the oven, channel M, and aperture L, and operating as and for the purpose set forth.

Eighth, the removable reflector baker A′, constructed as described, located and used in the manner and for the purpose set forth.

Ninth, the use of the circular gratings T and T′, when yoked or coupled with the bar V, as and for the purpose described.

No. 50,269.—GEORGE PALMER, Littlestown, Penn.—*Horse Rake.*—October 3, 1865.—This invention relates to the method of constructing the teeth, and the support for the driver's seat. The teeth have a sickle-shaped edge, for the purpose of cutting up lodged and tangled grain, not cut by the mower; and the seat is supported by a rubber tube, which is adjusted by means of a bolt passing through said tube, with a screw and nut upon its lower end.

Claim.—First, the sharp cutting sickle-edge rake teeth, the same being constructed, arranged, and operated in the manner as and for the purposes herein specified.

Second, the application of a vulcanized India-rubber tube for the support of the driver's in combination with the mode of adjusting the same, as herein described.

No. 50,270.—CHARLES H. PARKER and GRIDLEY BURNHAM, Waltham, Mass.—*Dust-pan and Brush.*—October 3, 1865.—This invention relates to an improvement in a combined dust-pan and brush, patented to Parker & Burnham, July 4, 1865, and will be understood by reference to the claim and engraving.

Claim.—Attaching to the back, side, top, or bottom of a dust-pan a suitable receptable for holding a dust brush intended for use in connection with a dust-pan, substantially as herein shown and described.

No. 50,271.—STEPHEN PERRETT, Yonkers, N. Y.—*Marking Attachment for Sewing Machines.*—October 3, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The above-described appendage to the sewing machine, having the parts arranged and constructed, and the marking presser actuated directly from the rocker shaft, substantially as set forth.

No. 50,272.—ALFRED S. PHILBROOK, Claremont, N. H.—*Machine for Bending Scythe Snaths.*—October 3, 1865.—The object of this invention is to bend sticks of wood in shape for scythe snaths, and consists in forcing the dressed stick into an iron former, made of two parts, and held together by strong iron bands over them, which hold them rigidly together, by slipping the bands into the former, which holds the wood in place, until perfectly set.

Claim.—The use of the former D, of the exact size and shape desired for the snath, with its rings, *i i i*, and its combination and arrangement with relation to the cross-pieces B′ B′, and the beam E, substantially as described, and for the purposes set forth.

No. 50,273.—HIRAM RICHMOND and ALFRED CLOUDE, West Meriden, Conn.—*Knob Latch.*—October 3, 1865.—In this invention the spindle passes transversely through a slot in the tail of the latch bolt, and carries two friction rollers arranged on opposite sides, which, as the spindle is pushed in from one side of the door, or pulled upon from the other, press against two inclined planes formed on the bolt within said slot, and thus retract the bolt.

Claim.—The pin or rollers attached to either side of the rod which connects the handles, in combination with two inclines in the slotted shank of the bolt, one on either side of said connecting rod, substantially as and for the purpose set forth.

No. 50,274.—JAMES C. ROBERTS, Adamstown, Md.—*Grinding Mills.*—October 3, 1865.—The object of this invention is to maintain the relative position of the millstones with each other, when grinding, so that as the spindle expands by heat, they will be automatically adjusted to compensate for that expansion, and the invention consists in providing and attaching to the driving power of the mill an arrangement of gear wheels, pawls, and weighted levers, whereby they counteract the expansion of the spindle, by automatically adjusting the bridge tree, to keep the stones at the same relative distance from each other, let the expansion of the spindle be what it may.

Claim.—First, the vibrating pawl frame, or its equivalent, operated from the driving power of the mill, in combination with the interposed gearing and adjustable suspension rod for raising or lowering the bridge piece.

Second, the weighted scale beam, or its equivalent, from which the bridge piece is suspended, and whose oscillations on either side of the given point of adjustment actuate the mechanism for raising and lowering the bridge piece.

Third, in this connection, and automatically operated, the rods G and I, and wheel nut H, forming a suspension rod, adjustable as to length, for the support of the movable end of the bridge piece.

No. 50,275.—E. P. ROGERS, Corning, N. Y.—*Instrument for Finding the Centres of Circles.*—October 3, 1865.—This invention consists of a T-square, on the long arm of which a slide travels, which slide is provided with two jaws so adjusted that when opened they may touch convenient points in the circumference of a circle of which the inner side of the longer arm of the square coincides with the diameter.

Claim.—The construction of an instrument, substantially as described, so that two jaws, as at C C, Fig. 3, with corresponding outline, turning upon a centre pin *c*, may be simultaneously adjusted, so as to touch convenient points in any circles, while the line of the inner edge of the tongue *a* shall be the radius of such circle.

No. 50,276.—WILLIAM F. RUNDELL, Geneva, N. Y.—*Brake for Horse Power.*—October 3, 1865.—This invention consists in placing the driving shaft in a sliding bearing, which is acted upon by springs, so that when the band is thrown off the shaft the latter will come in contact with a brake, and thus stop the machinery.

Claim.—The placing of the driving shaft of horse power in sliding bearings, acted upon by springs, or their equivalents, in such a manner that the band wheel on the driving shaft will, when the band is cast off from it, be thrown in contact with a brake, and the machinery at once stopped, the tension of the band, when on the wheel, keeping the latter free from the brake, substantially as set forth.

Also, the hinged plates and spring catches, applied to the bearings of the driving shaft, in the manner substantially as and for the purpose specified.

No. 50,277.—JOHN ROGERS, New York, N. Y.—*Still for Distilling Petroleum.*—October 3, 1865.—This invention consists of a still within which is a series of pipes supplied with petroleum; the petroleum in its passage through the pipes is highly heated, and the light oils are carried off by the pipe; the heavy oil passing out into the still.

Claim.—The within-described process of distilling petroleum or other hydro-carbon liquids, by passing the crude oil through heated pipes, or their equivalents, in the interior of the still, for the purpose of freeing the same from their most volatile constituents, substantially as herein set forth.

No. 50,278.—GELSTON SANFORD, New York, N. Y.—*Pea Sheller and Cherry Stoner.*—October 3, 1865.—This invention consists of a suitable box, in which are geared two rollers, having an interval between them, equal to the thickness of the hull of the pea or the pulp of the fruit; the box has a portion of the bottom or feed-board slotted, so that the peas or pits of the cherries may fall through.

Claim.—The two adjustable rollers A A, in combination with the feed-board D, constructed and operating in the manner and for the purpose specified.

No. 50,279.—E. V. SEARS, Boston, Mass.—*Stockings.*—October 3, 1865.—In this invention, a stocking is adapted to receive a stay on its inner side, for the purpose of preventing its falling about the ankle.

Claim.—As a new article of manufacture a stocking, which is provided with means for receiving the supporter *b*.

No. 50,280.—WILLIAM H. SEVERSON, Cohœs, N. Y.—*Apparatus for Drying Straw Boards.*—October 3, 1865.—This invention consists of stationary steam chests, against whose surfaces the articles to be dried are held by means of hinged pressers, consisting of frames whose bodies are composed of cloth or other suitable material, which shall be of an open texture to admit the passage of vapor through it.

Claim.—First, in dryers for treating straw boards and other articles to be dried, the use of stationary drying vessels, substantially like that shown at E, with hinged pressers, whose sides are flexible and porous or open, substantially as above described

Second, the hinged pressers composed of adjustable frames, and flexible porous sides D, distended on said frames, constructed and operating substantially as above described.

No. 50,281.—W. H. SEYMOUR, Ravenna, Ohio.—*Mill Roller.*—October 3, 1865.—This invention consists in a roller made of clay, moulded, glazed, and baked, until it is hardened as ordinary stone ware; through the centre there is a hole for the shaft to be inserted, and this shaft is cemented to the roller. This roller is to be used as a substitute for wood or metal.

Claim.—The herein described roller, for the purposes set forth, as a new article of manufacture.

No. 50,282.—HENRY F. SHAW, West Roxbury, Mass.—*Locomotive Car.*—October 3, 1865.—The object of this invention is to construct the car of a dummy so that it may be turned with freedom around any required curve. This is done by placing on the crank shaft a gear wheel on the axle of the car wheel; the working contact is kept at whatever angle the truck is turned.

Claim.—So shaping and arranging the gear wheel M of the crank shaft N, and the gear wheel L of the truck-wheel axle, that the one may turn horizontally about the other, substantially as set forth, and for the purpose described.

No. 50,283.—HENRY F. SHAW, West Roxbury, Mass.—*Mode of Transmitting Motion.*—October 3, 1865.—This invention consists in transmitting motion from a rotating crank shaft to a shaft or shafts arranged at right angles to the same by means of two connecting rods provided with slots at right angles to their length for the cranks to slide in, so that while the connecting rods slide over the cranks parallel with their axes, the cranks slide in the slots at right angles with the rods; by means of which device the driving shaft is free to thrn in a plane at right angles with the driving shaft, and also to move vertically toward and from the same when required. This device is applied to the axles and truck frame of a locomotive, in order to enable the boiler and engines to move vertically up and down to accommodate themselves to the motion of the car upon the springs, while the truck frame is free to turn in the usual manner independently of the body of the car.

Claim.—First, transmitting motion from shaft to shaft when at an angle with each other, by means of the slotted connecting rods J K, and elongated cranks *d e*, or their equivalents, substantially as described.

Second, giving motion to the driving wheels of a locomotive dummy engine, or street steam railway car, by means of the vertical crank shaft A, provided with the elongated cranks *d* and *e*, and the slotted connecting rods J and K, or their equivalents, arranged and operating substantially as described.

Third, passing the vertical driving shaft A through the centre on which the truck frame turns, substantially as described.

No. 50,284.—DAVID SHIVE, Philadelphia, Penn.—*Duplicating Deflector for Photographic Purposes.*—October 3, 1865.—This deflector consists of dead-black card board or other material that will neither reflect nor transmit light, attached in a vertical position by means of a vibratory arm to the forward end of a camera, and two or three feet therefrom, the said arm being capable of ready adjustment to any suitable angle, with an imaginary vertical plane passing through the axis of the lens, so that said deflector will cut off part of the rays coming from that side of the said vertical plane.

Claim.—The deflector A, arm B, and clamp C, constructed and arranged so as to operate, when applied to a camera, substantially as and for the purpose described.

No. 50,285.—WILLIAM SMITH, Philadelphia, Penn.—*Ventilating Device for Hats.*—October 3, 1865.—Between the sweat leather and the head of the wearer, in the rear of the hat, is a wire frame, an inch or more in width in the centre, and narrowing to a point where it is pivoted to the hat over each ear, said frame having transverse wire braces; at the centre is a hook sewed to hold it to any desired elevation, and laterally elastic bands assist in this office.

Claim —First, the frame A, constructed and adapted for being secured within a hat, substantially as and for the purpose specified.

Second, the combination with the said frame of the catch *e*, pin *n*, and elastic bands *m*, for securing the frame in its position, substantially as set forth.

No. 50,286.—D. E. SOMES, Washington, D. C.—*Process for Cooling Air,*—October 3, 1865.—This invention consists in causing a current of air to pass through a box provided with passages for the air, and containing compartments filled with ice or cold water.

Claim.—A portable air cooler, when made with tubes or their equivalents, as described and used, for the purpose set forth.

No. 50,287.—JOB B. STOCKTON, Oil City, Penn.—*Coupling for Shafts of Boring Tools.*—October 3, 1865.—This invention consists in coupling together two sections of the rod, by screwing a threaded tenon, which is upon the end of one, into a socket formed in the end of the other; and to prevent them from becoming unscrewed while in use, a set screw is passed inwards from the outside of the socket piece, so as to intersect the joint formed by the end of the tenon with the floor or bottom of the socket.

Claim.—In fastening drilling tools on their rods, and in securing the couplings of drilling rods, locking the parts to each other by means of a screw inserted radially through the walls of the outer part or half of the coupling so as to intersect the place of the joint, substantially as described.

No. 50,288.—DANIEL J. TITTLE, Albany, N. Y.—*Pill Machine.*—October 3, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, the arrangement of two pairs of grooved rollers at right angles to each other, so that the strips of pill material delivered from the first will be in position for being passed into the second pair, as set forth.

Second, the mode of fitting the scrapers *m u v*, each upon a cross shaft, with a spring to keep the scraper off the roller, but which will yield when the screws are applied to press the scraper to the rollers for cleaning the same, as specified.

Third, the bar 1, and bed *q*, in combination with the rollers *f* and *g*, and bed *r*, for causing the delivery of the cylindrical strips of pill material from the rollers *f g*, upon the bed *r*, in the proper position for passing them to the next pair of rollers, as set forth.

Fourth, an incline 3, combined with a pair of grooved rollers, and operating as specified, to give a rotary movement to the strip of pill material as it passes in between the rollers, as set forth.

Fifth, the combination of the incline *w*, and grating *x*, with the grooved rollers *s* and *t*, for receiving the pills as they are delivered from said rollers, and causing them to continue to revolve in the direction before acquired, while passing down the incline *w* and over the grating *x*, for separating the imperfect pills, as set forth.

No. 50,289.—WILLIAM H. TOWERS, New York, N. Y.—*Combined Shirt and Braces.*—October 3, 1865.—In this invention the suspenders are attached to the yoke of the shirt before and behind, acting the double purpose of suspenders and braces.

Claim.—A shirt provided with straps intended to take the place of suspenders, substantially in the manner above described, and for the purpose set forth.

No. 50,290.—CHRISTOPHER WADSWORTH, East Livermore, Me.—*Curd Cutter.*—October 3, 1865.—This invention consists of a cutter composed of a tin frame, with vertical divisions, one half the bottom being formed of lateral blades, extending one way, and the other half of blades crossing each other at right angles.

Claim.—A machine for cutting curd, as herein described, both the slicers and squares in combination.

No. 50,291.—JAMES O. WHITCOMB, New York, N. Y.—*Dental Operating Chair.*—October 3, 1865.—In this invention the chair is supported by a ball turning in a socket, in such a manner as to allow it to be inclined in any direction and at any desired angle, and there held by pressing the ball to the socket, by means of a clamp ring. The seat is raised and lowered by means of a bevel gear.

Claim.—The base *a*, stand B, in combination with the ring *y*, provided with bearings for the nut wheels *b b' b'' b'''*, and bevel wheels *a* and *c*, as herein described and shown.

Also, the chambered ring G, provided with the leather or other frictional material, in combination with the ball A, clamp ring *p p*, rod 2, eccentric or cam M, and lever *g*, as herein described and shown.

Also, the cams *m*, when attached to the rod *h*, and operating on the pins or studs *f*, as herein described and shown.

Also, the manner of arranging and adjusting the vertically and horizontally sliding bars S and I, in combination with their respective grooves, guide, and clamp screws, as herein described and shown.

Also, the segment *g*, when attached to the plate 6, and operated by the screw *n*, and milled head D, or its equivalent, as herein described and shown.

No. 50,292.—ORSAMUS A. WHITE and ISAAC W. BOSTWICK, Norwalk, Ohio.—*Sawing Machine.*—October 3, 1865.—This invention consists in applying to a sawing machine a combination of levers, pulleys, and cords, for the purpose of clamping the log while sawing it into blocks, and for elevating the saw when it has made its cut.

Claim.—First, the combination and arrangement of lever G, lever B B', and pulley *e*, and cord E, operating substantially in the manner and for the purposes specified.

Second, the combination and arrangement of the guide arm A, lever H, pulleys *d d*, and cord F, operating substantially in the manner and for the purposes specified.

No. 50,293.—FRANCIS L. WISSMANN, Philadelphia, Penn.—*Apparatus for Cooling Malt Liquors.*—October 3, 1863.—In this invention the liquid to be cooled is conducted over the surface of a series of horizontal pipes, and it consists in making the tubes of a flat or oval form in section, the sides of said tubes being corrugated; it also consists in attaching to the lower part of each pipe an undulating distributor.

Claim.—The described improvement in apparatus for cooling malt liquors, consisting in the use of the corrugated pipes A A, of a flattened or oval section, and otherwise arranged as and for the purpose specified.

Also, the laterally zigzagged or undulated distributing strips *a a*, whether used in connection with the described corrugated pipes or with any other form of tubes, as and for the purpose described.

No. 50,294.—CHARLES A. WILSON, Cincinnati, Ohio.—*Steam-warming Apparatus.*—October 3, 1865.—In this invention, in the upper part of the manifold, is an automatic air vent, and a water receptacle at the lower part, from which the water flows down the return pipe, and through an automatic valve, and into a tank, and thence, through another automatic valve, into the boiler. In this tank is an elongated float, combined with an air discharge valve, and vantage pipe, to regulate the flow of water into the boiler.

Claim.—First, the provision of the manifold F, having the automatic air vent G *g g'*, or its equivalent, at its upper part, and the water receptacle *f*, at its lower part, substantially as and for the purpose set forth.

Second, the provision in the return pipe H, of the diaphragm *h*, and valve I, so arranged as to open and close automatically by the alternate action of the back pressure of the steam and the forward pressure of the water of condensation, the latter being completely emptied by each discharge, substantially as set forth.

Third, in the described combination with the tank K, pipe L, water discharge valve M, ventage N, and air-discharge valve P, or other equivalents, the provision of the elongated float Q, arranged and operating as set forth.

No. 50,295.—ELMER WOODRUFF, Grand Rapids, Mich.—*Kettle for Evaporating Sorghum Sirup, &c.*—October 3, 1865.—This invention consists in so arranging the top of the evaporating kettle that the condensed vapor, instead of falling back into said kettle, is conducted to gutters attached to its sides. The invention also consists in the use of a pan, to prevent the sugar from settling on the bottom of the kettle, and being injured by the heat.

Claim.—First, a cover for kettles, having the general construction and arrangement herein described and for the purposes specified.

Second, in combination with the above, the pan, having supporting legs or ridges, substantially as and for the purpose specified.

Third, forming a door in the side of the cover of the kettle, through which the pan can be placed in or removed from the kettle, substantially as described.

No. 50,296.—JOHN N. WYCKOFF, New York, N. Y.—*Procese for Amalgamating Gold and Silver.*—October 3, 1865.—This invention consists in boiling the pulverized ore and mercury in a solution of common salt.

Claim.—The within described process of separating gold and silver from the adhering impurities, by mixing the whole with a solution of chloride of sodium, confining it together with mercury within suitable containing vessels, and thereby the action of heat commingling the chloride of sodium and mercury throughout the entire body of auriferous and argentiferous substances, substantially as set forth.

No. 50,297.—FRANCIS D. BALLOU, Abington, Mass., assignor to ALFRED B. ELY, Newton, Mass.—*Sewing Machine.*—October 3, 1865.—In this machine the presser foot is connected by a bell crank and link to a shifting fulcrum pin, on which rocks the working beam that operates the needle; a slot in the beam being made for this purpose. By this means when varying thicknesses of goods pass under the presser, the needle, by reason of the varying leverage of the arms of the beam, is caused to rise to different elevations to insure proper sewing, whilst it never fails to descend to the same point, to permit the shuttle, or looper, to take the loops with certainty.

Claim.—First, automatically controlling the throw of the needle in sewing materials of various thicknesses, by the presser foot, substantially in the manner and for the purpose set forth.

Second, the combination of a needle lever with a presser foot, substantially in the manner and for the purpose set forth.

No. 50,298 —J. H. BROWN, Boston, Mass., assignor to A. B. ELY, Newton, Mass.—*Hand Pegger.*—October 3, 1865.—This invention consists in so constructing the devices that a single blow of the hammer will punch the hole and drive the peg; the latter operation being performed by means of the recoil of a spring, which has been compressed by the blow of the hammer; said spring being compressed, by means of a catch, until the plunger has nearly reached the limits of its upward motion, having raised the spring and the awl, and the driver with it.

Claim.—Driving the peg by the reaction of a spring, compressed by the same blow that makes the peg hole.

No. 50,299.—EMIL CAJAR, assignor to himself and JOHN H. THIELING, New York, N. Y.—*Button-hole Sewing Machine.*—October 3, 1865.—In this invention, besides the ordinary Wheeler and Wilson bobbin for the lower thread, a similar bobbin is used to carry a cord or bar-thread; each bobbin lies within the cavity of its own hook, their axes being both in the same line; one hook revolves, the other oscillates, and the threads are wound upon the bobbins in opposite directions. The revolving hook catches the needle loop, and carries the same over its bobbin, and over the cord contained within it; the oscillating hook then seizes this loop, carries it in the opposite direction, and drops it over its bobbin. The feed dog has the usual four motions, and in addition a lateral and return motion for every stitch.

Claim.—First, the method herein described of producing a stitch, such as shown in figures 9 and 10, composed of two threads passing through the loop of the needle thread in opposite directions, and being interlaced with said loop, by mechanism substantially such as herein set forth, or by any other equivalent means.

Second, the use of an L-shaped feeder, in combination with a sewing mechanism, composed principally of an eye-pointed needle, a revolving hook, and an oscillating hook, and otherwise constructed and operating substantially as and for the purpose described.

Third, imparting to the feeder M′ of a sewing machine, in addition to its ordinary rising and falling motion, and to its ordinary rectilinear reciprocating feed motion, an oscillating or circular motion, by means substantially such as herein described, or any other equivalent means for the purpose specified.

Fourth, imparting to the feeder M′ of a sewing machine, in addition to its ordinary rising and falling motion and to its ordinary rectilinear reciprocating feed motion, a reciprocating motion acting conjointly with and in aid of the other motions, to effect both a lateral as well as a forward feed of the cloth in the formation of each single stitch, by means substantially as herein described, or by any other equivalent means, for the purpose set forth.

No. 50,300.—JOHN H. DURAND, assignor to himself and JAMES HARRISON, Kalamazoo, Mich.—*Folding Bedstead.*—October 3, 1865.—This invention consists in arranging a system of levers, called lazy tongs, under the bed frame, which latter is made in three parts, two of which, as well as the lazy tongs, are hinged to a central support in such a manner that when the foot and head of the bedstead are shoved together, the two end parts of the frame will be thrown upwards, carrying with them the bed and bed clothes.

Claim.—The lazy tongs G G, when connected to the head and foot of the bedstead and to a central post E, substantially as and for the purpose specified.

No. 50,301.—CHARLES G. IMLAY, assignor to himself and C. C. LATHROP, Philadelphia, Penn.—*Holder for Fruit Jars.*—October 3, 1865.—This invention consists of a holder made of wire, and provided with feet. It is intended for holding the jars while being heated, the feet preventing contact with the bottom of the oven, or vessel, on which it is placed.

Claim.—The holder A, with its feet *b*, constructed and adapted for the reception of preserving jars, as described, so that the jars may be maintained free from contact with the bottom of the vessel or oven in which they are heated.

No 50,302.—EDWARD JONES, assignor to himself and E. J. DAVENPORT, Boston, Mass.—*Gas Burner and Stop-cock.*—October 3, 1865.—This invention consists in a combination of gas-burner and stop-cock, and in making the moving disks of tin and antimony, or similar anti-corrosive substances.

Claim.—First, the combination of the gas-burner and stop-cock, in the manner and for the purpose set forth, substantially as described.

Second, making the disks or moving surfaces of contact of a composition of tin and antimony, or some metal equivalent, adapted to offer greater resistance to the corrosive action of the gas than that of which the rest of the apparatus is composed.

No. 50,303.—M. D. LAWRENCE, assignor to himself and G. K. FOX, Springfield, Mass.—*Box Opener.*—October 3, 1865.—This invention consists in a combination of several devices in a single tool, that will assist in the operation of opening boxes that are nailed or screwed together, by means of a set, by which the nail is set from the wall head, so that the pincers or claw will take hold of the head and draw the nail; and also a screw driver and chisel edge, so that a screw can be turned back and the box lid raised.

Claim.—The combination of the part A, having the projections *a*, *b* and *l*, and stop-pin *g* attached, with the part B, having the nail set G and projection *k* attached, these parts being combined and operated in the manner and for the purpose herein set forth.

No. 50,304.—WM. MCCLINTOCK, assignor to himself and G. G. LOBDELL, Wilmington, Del.—*Cut-off Valve.*—October 3, 1865.—This invention consists of an arm having slots of a peculiar character secured to the valve spindle and combined with the usual devices for operating the valve in such a manner that the operation of the cut-off valve will be suspended when the speed of the engine exceeds or falls short of the rate at which it is desirable to maintain the same. These slots are in the upper end of the arm, and the pin to which the valve rod is attached works in them. There are two horizontal slots, one above the other, connected together by a vertical one, and the wrist pin which works the valve is made to work in the vertical slot when the engine moves at its proper speed, but when from any cause this speed varies to any considerable extent either way, the wrist pin is, by the action of the governor, carried into one or the other of the horizontal slots, and the movement of the valve is discontinued until the speed is brought back to its proper rate, when the pin again enters the vertical slot.

Claim.—The arm B, with its slots *a* and V, formed substantially as described, secured to the valve spindle, and combined with the within-described operating devices or their equivalents, substantially as and for the purpose set forth.

No. 50,305.—ROGER W. PORTER, Nashua, N. H., and JACOB A. SPAULDING, Hudson N. H., assignor to ROGER W. PORTER, Nashua, N. H.—*Gardening Implement.*—October 3, 1865.—This invention consists of a combined hoe and rake, so hinged and pivoted that it may be at will converted from either of these forms into a shovel or spading fork. It is held in place by a sector, spring, and pin.

Claim.—The fork A, hoe B, projection E, latch F, and pin *d*, when these several parts are arranged in relation to the shank C, as and for the purpose specified.

No. 50,306.—H. S. SHEPARDSON, Shelburne Falls, Mass., assignor to H. S. SHEPARDSON & Co., of same place.—*Lifting Jack.*—October 3, 1865.—This invention consists in certain mechanism for running up a lifting jack, and for locking it and its load when up.

Claim.—In combination with the permanent portion B and the movable portion C of the jack, the toothed arc D and the swinging toothed arm F, operating together for the purpose and in the manner substantially as herein described and represented.

No. 50,307.—H. S. WALCOTT, Boston, Mass., assignor to JAMES D. SUMNER, Lexington' Mass.—*Water Meter.*—October 3, 1865.—In this invention the wheel is enclosed at its sides and divided into compartments or buckets by partitions, the radii of which are less than that of the wheel. The disk is much larger than the wheel, and forms a partition between it and the wheel. A case, enveloping the wheel in an enlarged hub, fits up against this disk and receives the water in said hub to discharge it at the other side. A shaft secured to the wheel passes through all these parts to gear with the indicator on the opposite sides.

Claim.—The water-wheel S, constructed as specified, when arranged in combination with its wheel box and pipes A and B, as herein described and for the purposes set forth.

Also, in combination with the above, the counter I, the indicator K, with the case M, when arranged as described and for the purposes set forth.

No. 50,308.—JAMES WARE, assignor to himself and C. Y. WARD, New York, N. Y.—*Drawers.*—October 3, 1865.—This invention consists in inserting a gore in the legs of the drawers, which gore is made to extend down to the bottom of the drawers, and inserting in the bottom of said gore an elastic band for drawing or gathering up the bottom of the drawers, so as to make them fit snugly to the leg or ankle of the wearer.

Claim.—Inserting in the bottom of a pair of drawers a gore-shaped piece of fabric, having an elastic band inserted in the same, for the purpose herein specified, a pair of drawers thus made constituting a new article of manufacture.

No. 50,309.—H. W. WARNER, assignor to himself, FRANKLIN J. PRATT, and EDMUND W. RUSSELL, Greenfield, Mass.—*Railroad Chair.*—October 3, 1865.—This invention consists in so constructing chairs for the ends of the railroad rails as shall not only secure the rails in place but afford a firm bridge upon which the wheels shall ride in passing over the joint between the ends, thereby rendering the rails more durable, and obviating the jolt usually accompanying the passage of the wheels from one rail to another.

Claim.—In combination with the bevelled end-rails C C, the railroad chair, constructed with the corresponding bevelled or inclined surfaces *d d*, for the purpose of bridging and gradually breaking the joint between the rails, for the purpose set forth.

Also, in combination with the back piece B the projection *b*, for the purpose of bracing and strengthening the back piece.

Also, a railroad chair, constructed with the back piece B, inclined surfaces *d*, brace piece *b*, and bed plate A, substantially as described and for the purpose set forth.

No. 50,310.—ROBERT WHITE, Kingston, C. W., assignor to FURNALDS & CLARK, New York, N. Y.—*Lamp Cleaner.*—October 3, 1865.—This invention consists of a combination of a shaft, thumb piece, and elastic ribs, the latter being formed at each end with eyes or loops by which they are hinged at their upper ends to the handle and at their lower ends to the slide.

Claim.—The combination of the thumb piece D, tubular slide B, and elastic ribs *b b b*, the latter being formed at each end with eyes or loops by which they are hinged at their upper ends permanently to the handle A, and at their lower ends to the slide B, all as herein specified.

No. 50,311.—EDWARD WRIGHT, assignor to JOHN GOULDING, Worcester, Mass.—*Bobbin Holder for Spinning.*—October 3, 1865.—This device is designed to be readily applied to spindles of different sizes and driven down to any desired point, while the constant pressure of the spring bars holds the bobbin steadily.

Claim.—First, a bobbin holder, constructed and operating as above described.

Second, making the bobbin holder by punching out the metal to form the spring bars *a*, substantially as set forth.

Third, the combination with the bobbin holder C of the expansible band E, substantially as set forth.

No. 50,312.—EDWARD CHARLESWORTH, London, England, assignor to CHARLES P. BUTTON, New York, N. Y.—*Handle Attachment to Small-arms.*—October 3, 1865.—This invention is designed to be applied to cane guns, and consists in adapting to the under side of the barrel, and at right angles thereto, a handle, for conveniently supporting the arm at aim, and sustaining the shock of the recoil.

Claim.—The handle or safety elevator above described, for the purposes to which it is applicable, as above set forth, in connection with a gun constructed without the ordinary stock or shoulder rest.

No. 50,313.—JAMES GALE, Jr., Devonshire Terrace, England.—*Mode of Keeping Gunpowder.*—October 3, 1865; patented in England June 27, 1855.—This invention consists in combining with the powder before packing fine unexplosive powder, such as pulverized glass or bone dust. The powder is packed in this condition, and when required for use is separated from the non-explosive powder by sifting.

Claim.—The combining fire-dry unexplosive powder with gunpowder, and in separating the fire dry powder from the gunpowder when it is required for use, substantially as herein described.

No. 50,314.—WILLIAM PETER PIGGOTT, London, England.—*Telegraph Cable.*—October 3, 1865.—This invention consists in constructing cables of wires of different electrical character, so that the currents induced thereby keep the cable charged at all times; it also consists in introducing at various parts of the cables plates of metal of different characters called ganglions, which also tend to increase the power of the cables.

Claim.—First, the method of giving a static charge to a cable, and the means by which this is accomplished, as is set forth, and the manner in which the generators are constructed, and which are equally capable of being used either on land or submerged in sea or other water, for telegraphs, and which may be used for other purposes.

Second, the application and use to and in the transmission of electric signals of statically charged cables, constructed and worked in the manner hereinbefore described.

Third, the combination in an electric cable of two wires or series of wires of opposite electrical denomination, one of such wires or series of wires being connected with earth at each end by corresponding earth plates, while the other wire or series of wires is connected to a galvanometer or receiving instrument, which is itself connected with earth by a corresponding earth plate.

Fourth, the combination in an electric cable of two or more wires or wire strands of one electrical denomination, connected through a galvanometer or receiving instrument with earth, and of a wire core or covering of opposite electrical denomination, in permanent connection with earth at each end, as hereinbefore described.

Fifth, the application of my ganglions to old or damaged cables of the ordinary construction for the purpose of working the same by the aid of induced electricity, in the manner hereinbefore described.

No. 50,315.—FREDERICK RANSOME, Ipswich, England.—*Manufacture of Artificial Stone.*—October 3, 1865; patented in England April 9, 1861.—This invention consists of a composition of sand, broken and pulverized stone, lime, or carbonate or sulphate of lime, glass, emery, or corundum, oxide of iron, clay, or other similar substance, and soluble silicate of potash or soda, the composition thus formed being afterwards treated with a solution of chloride of calcium, or other equivalent salt, for the purpose of converting the soluble silicate of soda into an insoluble silicate of lime.

Claim.—The manufacture of artificial stone by mixing sand, chalk, or clay, with or without other matters, with a soluble silicate, which, after moulding or plastering, is rendered insoluble, substantially as herein described.

No. 50,316.—FREDERICK RANSOME, Ipswich, England—*Manufacture of Artificial Stone.*—October 3, 1865; patented in England February 24, 1864.—This invention consists of a mixture of sand with soluble silicate, such as silicate of soda or potash, the soluble silicate of soda or potash being afterwards converted into an insoluble silicate of lime by means of chloride of calcium; the free chloride of calcium remaining in the stone is then converted into carbonate of lime by means of a solution of carbonate of soda, or equivalent salt.

Claim.—The treatment of artificial stone produced, according to my previous patent, by employment of a solution of carbonate or bicarbonate of soda, or equivalent salt, to decompose the excess of chloride of calcium, or equivalent salt, and to produce an insoluble substance within the pores of the artificial stone, substantially as herein described.

No. 50,317.—CHARLES SPANNAGEL, Barmen, Prussia.—*Fabric for Skirt Lining and Binding.*—October 3, 1865; patented in England February 8, 1865.—This invention consists of a fabric of thin material, suitable for facing or lining a lady's dress, in which is woven at or near one edge a heavier binding, such as is usually applied separately by sewing to the bottom of the dress, the lining and binding thus composing one piece.

Claim.—The herein-described skirt bordering and binding as a new article of manufacture, when combined together in the manner and for the purpose substantially as set forth and specified.

No. 50,318.—MARCUS BROWN WESTHEAD, Manchester, England.—*Derice for Arranging Tapes, Ribbons, and Threads for Use.*—October 3, 1865.—The object of this invention is to make up tapes and ribbons and thread for use, in such a manner that the consumer may be able to unwind or rewind them, and retain the coils in a compact form.

Claim.—The application of an elastic slip or drag for the purposes above set forth.

No. 50,319.—JOHN WILLIAMS, Montreal, C. E.—*Puddling Furnace.*—October 3, 1865.—This invention consists of a furnace having a hearth grate and blind grate. The bridges are hollow, and contain air chambers and water boshes. The air chambers are supplied with air by means of a pipe, and the water boshes communicate with open water boshes on each side of the furnace. An air chamber is employed for supplying the blind grate with air, and is provided with apertures closed by doors, so that the tewel holes may be cleaned if they should become clogged with cinders. A perforated air chamber is supplied with air, and a chamber is provided for heating the iron pigs before they are placed in the puddling hearth.

Claim.—First, the novel arrangement in a puddling furnace of a blind grate with the ordinary grate, together with the combination of slide door, trap doors, tewel holes, and air chambers, whereby for all the fuel consumed in the blind grate the benefit is received into the body of the furnace on the iron, with much less of the fuel passing up the chimney than in the ordinary furnaces.

Second, in the different grates the introduction of the hap doors for letting the ashes, cinders, &c, fall into the external ash-pit, and thus save the hauling out of ashes when the furnace is in operation, thereby effecting a saving in time.

Third, the peculiar arrangement of water boshes, whereby water may be employed without the danger of explosion from the generation of steam.

No. 50,320.—JAMES M. ALBERTSON, New London, Conn.—*Cut-off Valve.*—October 10, 1865; antedated September 27, 1865.—This invention consists in placing the cut-off valve

in the steam induction passage between the main valve and the entrance into the cylinder, and providing in the seat of the main valve additional ports for the eduction of the steam from the cylinder. These ports unite a short distance from the cut-off valve, and from the point of junction to the end of the cylinder they serve both as induction and eduction ports. By the action of the cut-off valve the induction port is closed when the eduction takes place, consequently the ports in the main valve seat act respectively as induction and eduction passages, never changing their relation to each other in this respect.

Claim.—First, the placing of a valve below the valve seat of a steam cylinder and in the ports or passages leading to the interior of the cylinder, in combination with the auxiliary exhaust ports C C, for the purposes substantially as described.

Second, the auxiliary ports C C, when used only as an exhaust port, and connected with the passage into the cylinder which contains the valve herein described and when used in combination with this valve, substantially as set forth.

No. 50,321.—ALONZO C. ARNOLD, Norwalk, Conn.—*Window-sash Lock.*—October 10, 1865.—This invention consists of a hinged pendent catch, the free end of which is constantly pressed by a spring against a rack let into the sash. The plate is forked at its free end, so that by passing a key between the two prongs the catch will be released from the rack.

Claim.—The construction and arrangement of a window-sash lock, in the manner and for the purpose substantially as herein set forth and described.

No. 50,322.—GEORGE R. BAKER, Brooklyn, N. Y.—*Machine for Kneading Dough.*—October 10, 1865.—This invention consists of an enclosed chamber to contain the dough, in which a wheel is rotated upon an eccentric, but yielding with a variable axis of rotation, by the action of which wheel upon the dough the latter is subjected to a rolling pressure rapidly repeated.

Claim.—First, the machine for kneading dough, constructed and operating substantially as herein described.

Second, the combination of the shaft *a* with its pivoted arm *a'*, the slot *e*, and spring *f*, arranged and operating substantially as and for the purpose herein described.

No. 50,323.—SETH W. BAKER, Providence, R. I.—*Dryer Felts for Paper-making Machines.*—October 10, 1865; patented in England May 9, 1863.—In this invention instead of felted wool or canvas a woven fabric is used, composed of several sets of warps and filling threads loosely interwoven, so as to form a single fabric of two or more ply, (six-ply being preferred,) of any desired thickness. The ends of these fabrics are united by the process patented to S. W. Baker, October 22, 1861.

Claim.—The use of the peculiar fabric, hereinbefore described, for a dryer felt in paper-making machines, the ends being united so as to make an endless belt or band, as set forth.

No. 50,324.—A. T. BALLANTINE, Morristown, N. J.—*Torpedo for Oil Wells, &c.*—October 10, 1865.—This invention consists in so constructing the apparatus as to enable the operator to withdraw it after explosion without difficulty; and also in so constructing it that it shall be exploded by its own weight after it has nearly reached the point to be acted upon.

Claim.—First, an apparatus to be exploded in oil or other deep wells, constructed and operated substantially as above described.

Second, securing a friction primer within a cylinder for holding powder or other explosive substance by means of a loose slotted bar placed in such cylinder, substantially as shown.

No. 50,325.—HENRY BARTH, Cincinnati, Ohio.—*Shears for Cutting Metal.*—October 10, 1865.—This invention consists in the employment in shears for cutting metal or other materials of many-sided cutters, the edges of which are grooved or hollowed out in such a manner that each edge presents two cutting edges, and if one of the cutting edges has become dull the cutter can be turned or reversed and a new cutting edge can be brought into play without loss of time.

Claim.—The combination of the many-sided nuts F F' with the stationary and movable jaws, substantially as and for the purposes described.

No. 50,326.—HENRY J. BEHRENS, New York, N. Y.—*Ore-crushing Stamp.*—October 10, 1865.—This invention consists of a revolving flanged pulley with a projection or nose on the flange which takes hold of a cross-bar having the raising strap to the stamp attached and held in place by means of a stirrup hung eccentrically to the centre of the pulley, by which means as the pulley is revolved the stirrup carries the cross-bar away from the centre of the pulley and releases it from the projecting nose of the pulley and the stamp falls.

Claim.—Giving to the cross-bar D an eccentric motion to the motion of the pulley and its nose by means of the levers G which carry said cross-bar D, and whose centres of motion are placed some distance from the centre of motion of the driving shaft or pulley, and operating in the manner and for the purpose substantially as described.

No. 50,327.—E. G. BLAKSLEE and A. MANSER, Sing Sing, N. Y.—*Grate Bar for Steam Generators.*—October 10, 1865.—This invention consists in an arrangement of feed-water

pipes in combination with hollow or tubular grate bars, whereby the feed water is pumped through the grate bars on its passage to the boiler so as to become fully heated before it reaches the boiler: and when the feed-water is cut off a circulation of water from the boiler is maintained through said tubular grate bars.

Claim.—The tubular water heaters *g* in combination with the pipes *k* and *m* and feed water pipe *e*, arranged and operating substantially as specified.

No. 50.328.—W. G. A. BOMVILL, Dover, Del.—*Screw Driver.*—October 10, 1865; antedated August 27, 1865.—This invention consists in combining with a screw driver any other tools which are commonly used in connection therewith, such as a counter sink, gimlet, reamer, &c., by means of a sliding socket and joint, the socket being made removable or fixed.

Claim.—Combining a counter sink or other tool which can be operated by a straight handle with a screw driver, by means of a socket D and a sliding joint, substantially as and for the purpose above described.

No. 50,329.—THOMAS BROOKS, Middletown, Conn.—*Centring Chuck.*—October 10, 1865.—In this invention three levers are pivoted inside of a sleeve, the outer ends of which bear upon sliding jaws, the latter being made to move in lines perpendicular to the axis of the chuck by means of the cone-shaped end of the spindle being forced between the opposite end of said levers to force them out, and a spring to force them back again when the spindle is withdrawn.

Claim.—The pivoted levers *d* with the sliding jaws *e* and conical screw spindle *c i b*, all constructed substantially as and for the purpose described.

No. 50,330.—C. C. BROWN, Washington, D. C.—*Bistoury.*—October 10, 1865.—This instrument is provided with what is termed a director or metallic finger, in which is a groove for the reception of a ligature which is inserted with the instrument in an incision and left therein after the instrument is withdrawn, for the purpose of keeping the muscles of the incision separate for a few days for sanitary purposes.

Claim.—The construction of the director A provided with a groove for the reception of a ligature C, as and for the purpose herein set forth.

No. 50,331.—ALEXANDER BUCHANAN, New York, N. Y.—*Slide Valve.*—October 10, 1865; antedated September 30, 1865.—This invention consists of a valve with a flexible cover which is suspended from the inflexible cover of the steam chest by means of bolts which are secured to the said steam-chest cover, and which are provided with nuts and collars with packing between them on the outside to insure a tight joint. To prevent a longitudinal movement of this flexible cover, bolts or rods are secured to each end of the steam chest which extend inward far enough to come in contact with the sides thereof; these rods can be adjusted from the outside of the chest. Two bolts are provided with set nuts and pass down through the steam-chest cover and extend down to within a short distance of the flexible cover, thus preventing the valve from forcing it up too far in case of compression in the cylinder; the flexible cover allows for slight compression in the same and for a discharge of water in the event of too great an accumulation therein.

Claim.—First, the attachment of the flexible valve cover to the inflexible cover of the steam chest by standing bolts G G and flanged nuts H H, which are fitted to form steam-tight bearings on seats *m m* outside of the latter cover, substantially as herein specified.

Second, the clamping pieces I I and bolts J J, in combination with the flanged nuts H H, standing bolts G G, valve chest cover B, and flexible valve cover, substantially as and for the purpose herein specified.

Third, the guard bolts K K, and jam nuts U U, in combination with the inflexible valve chest cover and flexible valve cover, substantially as and for the purpose herein specified.

Fourth, the longitudinally adjusting stop bars L L, applied at the ends of the valve chest and adjustable from the exterior thereof in combination with the flexible valve cover, substantially as and for the purpose herein specified.

Fifth, the nuts *r r* and elastic washers *s s*, in combination with the standing bolts G G, and adjusting nuts H H, substantially as and for the purpose herein specified.

No. 50,332.—EDWARD A. CAMPBELL, Williams Bridge, N. Y.—*Sash Supporter.*—October 10, 1865.—This invention consists in the employment of a hooked lever let into the window casing so that the hook acts against the outer face of the sash to draw it towards and bind it against the moulding.

Claim.—The sash supporter formed with a hooked end to act against the outside of the sash, and with a thumb piece or projecting end to be let into the window casing and protrude therefrom, as and for the purposes set forth.

No. 50,333.—MORGAN CHITTENDEN, Danbury, Conn.—*Machine for Pressing Brick.*—October 10, 1865; antedated September 25, 1865.—This invention consists in the combination of a transversely sliding mould box containing two sets of moulds, a single set of recip-

rocating pressing plungers and two sets of discharging plungers, in a semi-rotating table, to receive the bricks from one and the other set of moulds as the bricks are discharged therefrom by the discharging plungers. The said table is combined with the transversely sliding mould box so that the movement of the latter is obtained through the movement of the former. The discharging plungers are operated by means of a tripping cam, a notched rod, and springs.

Claim.—First, in combination with the transversely sliding mould box and horizontally reciprocating pressing plungers arranged at one end of the machine, the toggle B B connected with the said plungers and with a fixed bearing or fulcrum at the other end of the machine, and operated by a crank or eccentric wrist, substantially as herein described.

Second, the combination of the transversely sliding mould box containing two sets of moulds, the single set of reciprocating pressing plungers and the two sets of discharging plungers, substantially as and for the purpose herein specified.

Third, the semi-rotating receiving table J, in combination with the transversely sliding mould box, containing two sets of moulds and the two sets of discharging plungers, substantially as and for the purpose herein specified.

Fourth, so combining the semi-rotating receiving table J with the transversely sliding mould box that the movement of the said box is obtained through the movement of the said table, substantially as herein specified.

Fifth, operating the discharging plungers by means of the tripping cam V *p m*, the notched rod D and the springs *e e*, the whole combined and operating substantially as herein set forth.

No. 50,334.—NATHAN S. CLEMENT, New York, N. Y.—*Breech-loading Fire-arm.*—October 10, 1865; antedated April 29, 1865.—In this invention a longitudinal sliding bolt forms the recoil or breech piece, and suitable means are provided for securely locking it when the gun is fired. A hook attached to it retracts the cartridge case, which at the end of the movement is tripped up and can easily be ejected.

Claim.—First, the spring P, arranged relatively to the cartridge and to the retracting hook N, or its equivalent, substantially in the manner and for the purposes herein set forth.

Second, so arranging the locking bolt G relatively to the breech piece F, and the tumbler B, that the hammer cannot strike and discharge the cartridge except when the breech piece F is finally locked, substantially as herein set forth

Third, the thumb piece H as arranged relatively to the breech piece F and locking bolt G, for the purposes herein set forth.

Fourth, the back bolt I, arranged to operate in the same plane as the locking bolt G, for the purpose herein set forth.

Fifth, in combination with the sliding breech piece F the within described arrangement of a single spring K, connecting lever J, and bolts G and I, for the purposes herein set forth.

No. 50,335.—CHARLES CLEMM, Philadelphia, Penn., and AUGUST CLEMM, Manheim, Germany.—*Manufacture of Aniline Red.*—October 10, 1865.—This invention consists in the preparation of aniline red by the reciprocal decomposition of the salts of aniline and the salts of arsenic.

Claim.—The treatment of salts of aniline and its homologues by the arseniates of the alkalies, substantially as above described, for the production of aniline red.

No. 50,336.—SAMUEL COBURN, Stamford, Conn.—*Manufacture of Detergents.*—October 10, 1865; antedated September 30, 1865.—This invention consists of a composition of caustic lime, carbonate of soda, and carbonate of ammonia. Nineteen pounds of this composition are dissolved in ninety-six pounds of water to form a detergent fluid for toilet and other purposes.

Claim.—The combination, for the purpose aforesaid, of soda with ammonia, by the means and in the manner substantially above stated.

No. 50,337.—A. H. COLE, Sylvania, Ohio.—*Buckle.*—October 10, 1865.—This invention consists in the combination with a buckle frame of a wedge-shaped piece or tongue, which is placed under the middle cross-bar of the buckle, and is tightly wedged therein by pulling the brace, and is released by giving it a sudden pull in the opposite direction.

Claim.—The combination with the buckle frame *a* of the wedge-shaped piece or tongue *l*, arranged together and operating substantially in the manner described.

No. 50,338.—M. GRIER COLLINS, Cumberland, Md.—*Feathering Paddle Wheel.*—October 10, 1865.—This invention is explained by the claim and engraving.

Claim.—The combination of the projections on the paddle stem with the stationary double cam, by means of which the paddles in their revolutions are feathered as they enter and leave the water, substantially as described.

No. 50,339.—J. D. CONNER, Bloomington, Ill.—*Cooking Stove.*—October 10, 1865.—This invention consists in the construction of a parlor or heating stove, intended especially for burning bituminous coal, although any kind of fuel can be used therein. The upper part of

the fire chamber has provision for admitting air to the hot gases above the fuel, and above all is a gas-combustion chamber. The descending flue has a spiral course opening into an ash or soot receptacle, from which the exit pipe ascends.

Claim.—First, the pillar C, with its forked arms V V, for supporting the grate, in combination with a dumping grate, substantially as described.

Second, the perforated throat E, enclosed within an air chamber F, substantially as described.

Third, the combination of the perforated throat E with the gas-combustion chamber G, into which it discharges the masses of mixed gases and air, and with the lateral air passages O, which deliver air into both from below the grate, substantially as described.

Fourth, the method, as above described, of securing to the closets the slats R, to wit, by angular projections fitting into angular recesses made in the corners of the closet.

Fifth, the method herein described of making the closet A, to wit, forming an open frame or skeleton by casting, or otherwise, and securing the back and top and bottom plates or walls to the frame by means of bolts or equivalent devices, substantially as described.

Sixth, making the bottom and tube of the water reservoir in one piece, by casting or otherwise securing the top of the reservoir to the edges of the bottom *f*, through bolt holes made therein for that purpose, substantially as described.

No. 50,340.—THOMAS CONSIDINE, Chicago, Ill.—*Casting Skeins of Wagon Boxes.*—October 10, 1865.—This invention is too complicated to be briefly described.

Claim.—First, the screw C, connected with a platform F, and placed in a suitable framing A, in connection with the rotary block *a*, in the platform F, all arranged substantially as shown, for raising and lowering and for rotating the pattern for the purpose specified.

Second, the mould K, for the core of the skein and socket, having a pattern *a'* to form the mould for the inner end of the exterior of the socket J, when used in combination with match board or box K, and flask L, as described.

No. 50,341.—EDEN M. COOMBS, Memphis, Ind.—*Box for Packing Eggs.*—October 10, 1865.—This invention consists in arranging within a suitable box a series of cases one above the other. On the under side of each case, and on the under side of the lid of the box, is a pad or cushion to prevent the eggs from jostling.

Claim.—The use of pads or cushions C, applied to the bottom of the cases or shelves, for the purposes herein specified.

No. 50,342.—EDWARD DART, New York, N. Y.—*Ore-crushing Stamps.*—October 10, 1865.—This invention consists of a flanged pulley, over which the strap that raises the stamp passes; a portion of the flange being cut away to allow the notch in the flange to take hold of the cross-bar to which the strap is attached, so that as the pulley is rotated the notch carries the cross-bar over, until it comes in contact with cam standards in such a way that the bar is carried over the notch in the flange, and on releasing its hold allows the stamp to fall.

Claim.—First, the arrangement of the pulley C, with flanges *a a* partly cut away to form a nose *n*, in the manner and for the purpose described.

Second, in combination with the above-described pulley C, the cross-bar D, working loosely on said pulley, when constructed, arranged, and operated in the manner and for the purpose set forth.

Third, in combination with the pulley C, the frame G, constructed as specified, and operating on the cross-bar D, in the manner and for the purpose substantially as set forth.

Fourth, the guard rods N, in combination with the pulley C, frame G, and cross-bar D, arranged in the manner and for the purpose described.

No. 50,343.—THOMAS DUTTON and THOMAS MAGUIRE, Port Jervis, N. .Y—*Pipes or Tubes for Wells.*—October 10, 1865.—This invention relates to that class of pipes commonly used in connection with pumps for obtaining water or other fluid from the earth, the passage for the tube through the soil being made by a bar previously forced down into the earth, of a diameter equal to that of the tube; when the passage is to be made through rock, boring tools are employed; in some instances the forcing bar or boring tools are dispensed with, the pipe or tube being forced down through the soil, thus making its own passage.

Claim.—The well pipe or tube composed of the interior non-perforated and the exterior perforated tubes, constructed and connected together substantially as described and herein set forth.

No. 50,344.—JOHN C. EIBEN, New York, N. Y.—*Sheet Metal Can.*—October 10, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The head of the pail or can, composed of a ring A, united with the sides by a double-seam joint *b*, and having a turned-in edge *a*, and the removable lid C, with its depressions *c*, and flange *d*, soldered into and around the opening of the said ring, substantially as herein described.

No. 50,345.—JAMES ELLEMAN, Providence, R. I.—*Shoe Buckle.*—October 10, 1865.—This invention consists of a buckle which may be cut or struck out of a sheet of metal, and by the use of suitable devices a number of the buckles may be thus produced at one operation.

Claim.—As a new article of manufacture a buckle or shoe fastening, made substantially as shown and described.

No. 50,346.—L. V. FICHET, New York, N. Y.—*Steam Superheater.*—October 10, 1865.—This invention consists of an apparatus in which the steam from the steam generator is passed through a series of horizontal pipes, which are arranged in a box which is placed over a furnace, and provided with a series of vertical heating tubes, in such a manner that as the heat passes up through said vertical heating tubes, the steam passing through the horizontal pipes will be highly heated without exposing the pipes containing the steam to the direct action of the fire.

Claim.—An apparatus for superheating steam, composed of a box B, provided with a series of horizontal pipes *b*, and a series of vertical heating tubes *c*, in combination with the furnace C, substantially as herein set forth.

No. 50,347.—ISAAC D. FLANAGIN, Ceresco, Mich.—*Whiffletree.*—October 10, 1865.—This invention includes a double-tree connected with the plough in the ordinary manner, to each end of which is attached an equalizing single or whiffle tree. Near the inner end of each single-tree a short equalizer is pivoted. Three horses are to be used with this implement. The outer traces of the outer horses are fastened to the outer ends of the single-trees, while the inner traces of the outer horses and the traces of the middle horse are fastened to the equalizers in such a manner that they cross each other for the purpose of giving an ample spread to the team, and proportioning the strain brought upon each horse to the power of the animal.

Claim.—The employment of crossed traces connected to a short adjustable equalizer E, when used in combination with the equalizing whiffle-trees B B and double-tree A, and constructed and arranged substantially as and for the purposes herein described and set forth.

No. 50,348.—J. FRASER and JAMES CALKINS, Buffalo, N. Y.—*Tank for Storing Petroleum.*—October 10, 1865.—This invention is fully described by the claim.

Claim.—First, a hermetically constructed metallic tank or storehouse A, provided with a safety gas vent and fuse F *c e*, for preserving petroleum and other hydrocarbon fluids, substantially as described.

Second, the combination of a receiving, separating, and gauging tank B, with the hermetical tank A, arranged in the manner and for the purpose set forth.

Third, in combination with the hermetical tank A, an equalizing delivery chamber G, when the same are connected by a series of valves *i i*, arranged at different altitudes, each independent of the others, for the purpose of drawing oil of different gravities from the amount in store, substantially as set forth.

Fourth, the agitator H, in combination with the chamber G, and store tank A, for the purpose of combining and equalizing the oil in G before delivery, when different grades are taken from A at one time, substantially as described.

Fifth, constructing the supporting columns *g g* of tubular form, with one or more openings at the base, for utilizing the space in tank A, substantially as set forth.

Sixth, in combination with the tanks A B, the arrangement of the receiving pipe *d*, entering through the roof and descending to the floor of A, whereby the fresh oil is always introduced first in contact with the heavier stratum of oil and paraffine deposited on the bottom, and is discharged with a force acquired by its descent from the top of tank A, substantially in the manner and for the purposes set forth.

Seventh, in combination with the hermetical tank A, and delivery chamber G, the heating coil *r r*, arranged and operating as and for the purpose shown and described.

Eighth, the metallic safety fuse *e*, in combination with a hermetical incombustible reservoir A, for hydrocarbon oils, for preventing the burning of the escaping gas from igniting the contents of the reservoir, substantially as set forth.

Ninth, the combination and arrangement of the hermetical storehouse A with the receiving, gauging and separating tank B, equalizing delivery chambers G, and agitator H, operating conjointly, and constructed as described.

No. 50,349.—JOHN B. GHORMLEY, Bellefontaine, Ohio.—*Churn.*—October 10, 1865.—This invention consists in the combination and arrangement of a radial dasher within a corrugated circular one, said radial dasher fitting closely around a centre-piece in the churn tub, and both being provided with suitable gearing. A solid and hollow shaft is employed, whereby the tub is made to revolve in one direction and the dashers in another direction simultaneously.

Claim.—The arrangement of the circular corrugated dasher B and dasher B′, or their equivalents, in combination with the corrugated centre *e*, tub A′, and hollow shaft *a*, when operating in the manner and for the purpose set forth.

No. 50,350.—WILLIAM GLADDEN and RICHARD F. BISHOP, Chrome Hill, Md.—*Cane Stripper.*—October 10, 1865.—This invention consists in the employment of a set of cutters opened outward or extended with relation to each other, to admit of the ready insertion of the stalks, and so operating as to snugly embrace the stalks and sever the blades.

Claim.—First, the knife F attached to the standard in convenient position for the operation, whereby the top of the cane is struck off preparatory to stripping off its blades.

Second, the pendent gate E, for enlarging the opening between the cutting knives C C C′ C′, for the introduction of the first stalk, substantially as described.

No. 50,351.—B. J. GREELY, New York, N. Y.—*Suspenders.*—October 10, 1865.—In this invention each shoulder is encircled by a belt. These belts are held by an adjustable horizontal strap in the rear. The pantaloons are sustained by a strap attached to the shoulder belt under each arm, the connection with the pantaloons being by means of a spring hook and ring.

Claim.—First, the suspenders above shown, consisting of a band encircling each shoulder, and held adjustable behind, and a strap descending from it at the side, the whole constructed and applied substantially as above described.

Second, in combination therewith, the buckle F, having a double inclination of its back bar, substantially as and for the purpose above set forth.

Third, the arrangement, with braces and pantaloons, of a spring hook and ring, or the equivalent thereof, substantially as shown and described.

No. 50,352.—E. J. GREEN, Valparaiso, Ind.—*Broom and Mop Head.*—October 10, 1865.—This invention is explained by the claim and engraving.

Claim.—A metallic broom or mop head, composed of two sections, and each section having a semi-screw shank upon it, so that when the jaws or clamps of the sections are brought together the semi-screw shanks will also be brought up against each other and form a whole screw shank, upon which a handle is screwed to hold everything tight and firm, substantially as described.

No. 50,353.—D. GREEN, Troy, N. Y.—*Ice Creeper.*—October 10, 1865.—This invention consists of an ice creeper adapted for attachment to the front of the boot heel, avoiding any unsightly or inconvenient projection backward or laterally beyond the heel. A toothed bar is secured in position beneath the heel when in use, and within the hollow of the boot when not in use.

Claim.—The combination of the elastic, serrated bow *m n* and attachment *g h l*, when constructed as shown and described, and adapted for application to a common boot without projecting horizontally beyond the area of the latter.

No. 50,354.—C. C. HARE, Louisville, Ky.—*Heater.*—October 10, 1865.—In this invention air tubes pass through the drum forming the upper part of the heater, and convey the heated air from the outside to the top of the combustion chamber. From near the circumference of this chamber smoke pipes pass up into the drum. The bottom of the drum is convex, and has a soot pipe in the centre with a conical end descending into the combustion chamber. The drum is so connected to the fire chamber, by rods with screws and nuts, that it can be easily raised or lowered.

Claim.—First, the warm-air tubes or cylinders A passing through the drum, in combination with the smoke pipes B, and with a drum whose bottom is convex and has a soot pipe at its centre, substantially as described.

Second, so connecting the fire chamber to the drum that the latter can be elevated to varying heights, substantially as described, for the purpose of increasing or decreasing the extent of radiating surface.

No. 50,355.—GEORGE HARPST, New Hamburgh, Penn.—*Composition for Welding.*—October 10, 1865.—This invention consists of a mixture of borax three-fourths of a pound, and sal ammonia one-fourth of a pound. The mixture is heated to a bright-red heat, and used as a flux in uniting iron and steel or other metals.

Claim.—The within-described composition, made substantially as set forth, for the purpose specified.

No. 50,356.—B. A. HENRIKSEN, San Francisco, Cal.—*Chimney Top.*—October 10, 1865.—In this invention the upper part of a cylindrical stove-pipe is surrounded with an upwardly tapering jacket, held in place by supporting hooks at the top and by the partition plates to the lateral openings near the bottom. Above the top is a cap supported by rods.

Claim.—In combination with the cylindrical chimney D, the upwardly tapering jacket A, provided with supporting hooks *a a*, lateral openings B B, and partitions C C, and so applied that, while projecting slightly above the top of the chimney D, nearly its entire length will surround said chimney, all as herein described.

No. 50,357.—B. HOTCHKISS, New York, N. Y.—*Packing Projectiles fo Rifled Ordnance.*—October 10, 1865.—In this invention the projectile is provided with lugs extending from its

base at different points in its circumference, and the expanding metal cup, instead of being continuous, is cast between the said lugs only, its segments being united by openings through the base lugs, into and through which the soft metal is cast. The said packing or cup is made shorter or shallower than the length of the lugs dividing it.

Claim.—First, the bridges or posts A′, extending across the packing, flush with the surface of the main casting A, and adapted to allow windage at those points, substantially as and for the purposes herein set forth.

Second, prolonging the legs or posts A′, in the rear of the packing C, so as to protect the latter in handling and transportation, substantially in the manner and for the purposes herein set forth.

No. 50,358.—CHARLES HOWARD, New York, N. Y.—*Breech-loading Fire-arm.*—October 10, 1865.—In this invention a sliding breech-pin, operated by the trigger-guard lever, has a rearward projecting spindle, upon which slides the tubular sheath of the hammer and a spiral or helical spring surrounding the said spindle and lying between it and the surrounding tubular sheath. Two prolongations or arms, extending forward from the tubular sheath in longitudinal grooves on either side of the breech-pin, impinge upon the flange of the cartridge when the said tubular hammer is released from the detent.

Claim.—Constructing the breech-pin in the manner described, so as to unite in one piece the breech-pin and spindle of the lock, in combination with a cylinder hammer surrounding the said spindle, and enclosing within itself a spiral main-spring, and the whole constructed and arranged to operate substantially as described, so as to compress the spring within the hammer by the forward movement of the breech-pin in closing the breech of the arm, substantially as herein set forth.

No. 50,359.—JOHN W. HYATT, Jr., Albany, N. Y.—*Billiard Ball.*—October 10, 1865; antedated September 27, 1865.—This invention consists in constructing billiard balls of layers of muslin or linen cloth coated with a mixture of shellac and ivory dust. The fibrous layers are pressed together and heated until the composition is thoroughly melted and has combined the whole into one mass. The layers are so arranged that the surface of the balls presents only the edges of the layers. To prevent the balls from cracking, a rivet is passed through the centre.

Claim.—First, constructing balls of layers of fibrous and adhesive solid material, in such a manner that the surface of said balls shall only present the edges of said layers, for the purpose as herein described.

Second, riveting the balls inside, as described, or in an equivalent manner, for the purpose specified.

No. 50,360.—PICKMORE JACKSON, Saugus, Mass.—*Machine for Cutting Boot and Shoe Uppers.*—October 10, 1865.—This invention consists of pointed rods or indicators sliding freely through round holes and dropping of their own weight, in combination with cutting dies, and in a double die for gaiter-boot fronts, having a single blade to cut the tops of two patterns.

Claim.—First, the indicators T T, or their equivalents, in combination with the cutting dies, substantially as set forth and for the purpose described.

Second, a double die for gaiter-boot fronts, having a single blade to cut the tops of two patterns, substantially as and for the purpose described.

No. 50,361.—HENRY JEFFREY, Vincennes, Ind.—*Claw Bar.*—October 10, 1865.—This invention consists of a fulcrum having a base of the form of a half circle. A lever, having pivoted at its base two short arms, is attached to this fulcrum by setting the base against the top or cross-bar of the fulcrum. The short arms projecting downward upon each side of the cross-bar have slots, through which a gib and key are driven, drawing the handle firmly against the fulcrum. The handle may be placed at right angles to the top of the base or parallel thereto, or a handle having an oblique end may be used.

Claim.—The semicircular rolling fulcrum A, in connection with the handle or lever C and hinged bars D, and either with or without the plate B, all arranged substantially as and for the purpose specified.

No. 50,362.—HENRY JENKINS, Brooklyn, N. Y.—*Mould for Casting Railroad Bars.*—October 10, 1865; antedated September 27, 1865.—This invention consists in forming the metallic mould of a series of transverse sections having at each end a groove which fits over and rests upon two supporting beams or ways. The two end sections abut against a stiff spring, the pressure of which, being regulated by a set screw, serves to bind them all together, and forms the bed or bottom of the mould. The top is formed of two parts, divided longitudinally, each part being composed of the same number of sections as the bottom, and held together by means of springs attached to the ends of rods passing through said sections longitudinally.

Claim.—First, a series of metallic sections connected together in substantially the manner specified, so as to form a continuous mould that will allow for expansion and contraction, without changing the shape or accuracy of the moulds, as set forth.

Second, the spring *c*, or its equivalent, at the ends of the frame, to press the section closely together, and permit the longitudinal expansion of the moulds or sections while in use, substantially as specified.

Third, the bars *h*, connecting the sections *f* or *z*, and fitted with springs, to press said moulds together, substantially as specified.

Fourth, the clamping bars *p q r*, applied in the manner specified to press the sections of the mould together with uniform force, as specified.

Fifth, the movable plates *w*, applied to the faces of the pouring holes or sprues, as specified.

Sixth, the metal coil studs 7 7, sustained by the wires 8, and forming the spike or screw holes in the cast railroad bar, as specified.

No. 50,363.—WILLIAM H. JOHNSTON, Northboro', Mass.—*Horse Rake.*—October 10, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The combination and arrangement of the treadles T M, the arms H K, and their connecting links L N, with the rake heads, the thills and the mechanism, as described, for connecting the seat with the thills and the rake head, and for enabling the weight of the driver to be employed for pressing the rake downward, as and for the purpose set forth.

Also, the combination and arrangement of the lever A, and its link M, with the above described mechanism, for so connecting the seat with the rake head, and the latter with the thills, as to enable the rake head to be raised or depressed, and receive the weight of the driver, in manner substantially as hereinbefore explained.

No. 50,364.—LUCIUS JORDAN and LEANDER E. SMITH, Southington, Conn.—*Wrench.*—October 10, 1865.—In this wrench the end of the bar, reduced in size, screws into the ferrule upon the end of the handle, and a nut, in which is formed the step of the adjusting screw, is interposed between the ferrule and the shoulders, upon the shank, at the point of junction of the round and square portions thereof.

Claim.—First, the step E when held in place upon the bar, substantially as and for the purpose herein set forth.

Second, the nut F, fitted to screw upon the bar A, so that one of its sides or faces will rest against the step E, and the other recessed to receive the upper end of the handle, substantially as described.

Third, the combination of the step E, screw rod C, nut D, and nut F, substantially as herein shown and described.

No. 50,365.—F. JUST and A. KOELLENER, Buffalo, N. Y.—*Aerial Car.*—October 10, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, a balloon constructed in two sections, and constructed as described, for the purposes set forth.

Second, the balloon constructed in two sections in combination with the car A, as herein set forth.

Third, the car A, balloon B B′, the connection D, as arranged with the engine when constructed, as herein shown and described.

Fourth, the wings H H, the frame C, in combination with the car A, all constructed and arranged as herein described.

No. 50,366.—DANIEL S. KAHLER, Elkhart, Ind.—*Straw Cutter.*—October 10, 1865.—This invention consists in the employment of a sash for compressing the straw, &c., in combination with the knife sash; and in connection with the above is a straw gauge and a spring gauge, the operation of which will be evident from the engraving.

Claim.—The compress sash A, in combination with the knife sash C, constructed and operated in the manner and for the purpose above set forth.

Also, the straw gauge E, and spring gauge F, for the purposes above specified.

No. 50,367.—A. K. KING, N. H. KING, and F. S. WALKER, Nevada, Ohio.—*Bee-hive.*—October 10, 1865.—This invention consists in constructing the comb frames with upper and lower bars, the lower bar being bevelled so as to form the comb guide for the purpose of securing straight combs, and provided with double projections to keep the frames at a proper distance from each other and from the walls of the hive.

Claim.—First, the comb frames D, provided with the upper and lower bars *o p*, constructed and arranged substantially as and for the purposes described.

Second, the lower bar *p* of the comb frames, bevelled so as to form the comb guide *r*, for the purpose of securing straight combs, and provided with the double projections *g*, to keep the frames at a proper distance from each other and from the walls of the hive.

No. 50,368.—A. KREUSLER, New Lebanon, N. Y.—*Apparatus for Distilling Petroleum.*—October 10, 1865.—This apparatus is so constructed that oils of different specific gravity can be separated while the process of distillation is going on, and that the light constituents of the petroleum are evaporated by the heat of the vapors of the heavy constituents, so that only the latter have to be distilled by the direct application of heat.

Claim.—First, the combination of an evaporator B and separator E, constructed and operating substantially as and for the purpose set forth.

Second, the corrugated plates *b*, with spiral grooves, in combination with the induction pipe *e*, pipes *f*, vapor pipes *c*, and caps *d*, constructed and operating substantially as and for the purpose specified.

Third, the compartment D, arranged one above the other, in combination with pipe *j*, branch pipes *g*, stand pipe *h*, and escape pipe *i*, constructed and operating substantially as and for the purpose described.

Fourth, the condensing chambers *m*, arranged in the interior of the compartments *l* of the separator, in combination with the pipes *p* and *v*, partitions *o*, and holes *q*, and with the pipe *t*, and connecting pipes *u*, constructed and operating substantially as and for the purpose set forth.

Fifth, the use of a series of adjoining condensing chambers, arranged substantially as herein described, for the purpose of separating the condensed liquids of different specific gravity.

No. 50,369.—ISAAC W. LAMB, Rochester, N. Y.—*Knitting Machine.*—October 10, 1865.—This invention consists in the construction of the cams that operate the needles, and in the manner of operating such cams; in the manner of regulating the length of the loops; of supporting the sliding carriage; of constructing the jacks, and of driving the sliding carriage; in the construction and operation of the yarn guide, and the means of driving it; in the construction of latch openers, and in the means for connecting suitable weights to the work.

Claim.—First, the employment in a knitting machine having two rows of needles operating alternately of shifters *p p*, having suitable bearings, and one or more oblique slots *p*2 *p*2, in combination with the pins *r*2, and transverse slots *q'*, in the cam box, for the purpose of shifting the V-shaped cams to produce the alteration in the operation of the two rows of needles, substantially as herein described.

Second, the combination of the shifters *p p*, having projections *p p'*, with suitable stops H, to effect the movement of the shifters, as needed, in order to change the V-shaped cams, substantially as herein set forth.

Third, the adjustable stops H, so secured as to allow of their being placed either in position to combine with the projections *p'* of the shifters, and thus change the V-shaped cams, or in position to allow the shifters to pass them without changing them, so as to permit of changes in the machine simply by the change of the stops, substantially as described.

Fourth, the outside cam pieces *r' r'*, when they are made either one or both adjustable in the line of the side of the V-shaped cam, so that when either of the outside cams shall be adjusted to regulate the length of the loops, the parallelism between the sides of the V-shaped cam V, and the inside surfaces of both outside cams *r' r'*, shall always be preserved by the change of the shifters, as described.

Fifth, the manner of regulating the length of the loops by means of the link *n*, slot *m*, and the thumb screws, substantially as described.

Sixth, the friction spring S, to prevent the changing of the shifters before they come against the stops H, as described.

Seventh, the plate U U, over the needles, when the same perform the double office of retaining the needles in their grooves, and also from the lower rests or bearings for the sliding frame, as described.

Eighth, the manner of fastening the plates U U in place, by means of pins *g' g'*, and holes *g*2 *g*2, whether the pins are stationary in the foundation or in the plates, so long as the plates are held down on the needles, by the sliding frame, so as to make the needles to be readily removed, by simply loosening the bearings or gibs D', to allow the sliding frame to be raised, substantially as herein described.

Ninth, making the inner edge of the plates U, which plates perform functions stated in clause seventh of the claim, bevelling or sharp on the upper side, as described, for the purpose of turning over the needle latches, when the needles are drawn down to be out of working position.

Tenth, having the lower ends of the wire jacks G all firmly attached to the plates E, in combination with the small rods U passing through the eyes in the upper portions of the jacks, substantially as described.

Eleventh, making the jack plate E adjustable, out and in, so as to have the opening between the two rows of jacks wide or narrow, as described.

Twelfth, the attachment of the crank C2, by suitable shaft and bearings, to the foundation of the machine, by means of a connecting rod C', attached at one end to the crank, and at the other end to the sliding frame, substantially as described, whether the machine be in all respects similar to this or otherwise, so long as there be a sliding frame moving over two alternately operating rows of needles, substantially as herein described.

Thirteenth, a detached yarn carrier, having an adjustable movement to conform to any desired width of fabric to be knit, in combination with a sliding frame, having a uniform distance of movement, substantially as described.

Fourteenth, operating the yarn guide or carrier by means of the driving spring K, on the sliding frame, working on the inclined surfaces and stops of the yarn carrier, in combination with the friction spring *g*, substantially as herein described, for the purpose of taking hold and letting go of the yarn carrier as described.

Fifteenth, a knife or sharp-edged latch opener or guard that takes the latches from the tops of the hooks of the needles, whether the edge of such latch opener is nearly straight, and the movement of the needles opens the latches, or whether the needles are stationary while an inclined knife edge opens the latches.

Sixteenth, the combination of the two latch openers, constructed as shown, with the yarn carrier, when the same are so arranged as to permit the yarn carrier to pass between the latch openers, as described.

Seventeenth, the bent wire Q, or its equivalent, to drop down on the yarn in setting up work on the machine, so as to permit a weight to be attached to the same under the machine by means of the bent wire Q′, or other suitable connection, substantially as described.

No. 50,370.—LOUIS LANSZWEERT, San Francisco, Cal.—*Composition Friction Matches.*—October 10, 1865.—This invention consists of a compound which is not liable to be injured by the influence of moisture, and which will produce a match that ignites only on a peculiarly-prepared friction surface.

Claim.—The within-described match compound, made of the ingredients above set forth, free from phosphorus and sulphur, substantially as specified.

No. 50,371.—S. LEWIS, Tiffin, Ohio.—*Flour Bolt.*—October 10, 1865.—In this invention the rappers are applied within the bolting cloth, and are made to operate in such a manner that the force of the blows may be regulated or the blows made to cease without stopping the motion of the reel.

Claim.—First, applying and actuating hammers or rappers, which are arranged within the reel of a bolting mill, in such a manner that the force of the blows of said hammers can be increased or diminished at pleasure, whether the reel be in motion or at rest, substantially as described.

Second, the employment of springs applied to hammers, which are arranged within the reel of a bolting mill, for the purpose of increasing the force of the blows of said hammers, substantially as described.

Third, the combination of spring hammers with a bolting reel and a device which is arranged outside of said reel, for regulating the force of the blows of the hammers, as well as stopping their operation, substantially as described.

No. 50,372.—J. B. LYON, Cleveland, Ohio.—*Lightning-Rod Joints.*—October 10, 1865.—This invention consists in brazing a hollow thimble in the end of one of the sections, leaving about half its length projecting therefrom, in which a groove is formed somewhat similar to the groove of a bayonet socket; and on the internal surface of the other section near the end a spur is formed by the action of a punch upon the outer surface, which spur fits into the groove and holds the two sections together in the same manner as the bayonet is held upon the gun.

Claim.—Uniting the sections of tubular lightning rods by means of the short tubes B, the grooves *c c′* and *c″*, and the point *d*, as herein set forth and described.

No. 50,373.—GEO. MATTHEWMAN, Williamsburg, N. Y.—*Tool for the Manufacture of Glass.*—October 10, 1865.—This invention, relating to moulding glass and composition buttons, consists in having the shanks deposited in hoppers formed in two plates; along the line of the eyes there is a raised portion or projection. The matter is melted either on the projection or the die, which is brought down into the projection by means of a press.

Claim.—The employment of a shank holder, having a raised partition *b*, substantially as described, in combination with a female disk adapted to said projecting portion *b*, the whole constructed to operate in the manner and for the purpose set forth.

No. 50,374.—GEO. MATTHEWMAN, Williamsburg, N. Y.—*Holding Shanks of Moulds for Glass Buttons.*—October 10, 1865.—This invention consists in the employment of two movable plates, having cavities in their adjacent edges to match and form shank-holding receptacles, in combination with a retaining bar provided with notches, and constructed so as to admit of the insertion of the shanks, and then be closed or slid over them to hold them in.

Claim.—The movable plates A A′, having cavities in their adjacent edges to match and form shank-holding receptacles, in combination with a retaining bar B, or its equivalent, the whole arranged to operate substantially as described, for the purpose set forth.

No. 50,375.—JOHN S. MCINTIRE, Chicago, Ill.—*Apparatus for Moving Buildings.*—October 10, 1865.—This invention consists in providing a balance frame of a house-moving apparatus with a central support, which can be varied from one side to the other from the centre, and adjusted centrally to the weight as well as the width of the building to be moved.

Claim.—First, the chair E, or its equivalent, of a balance frame in house-moving apparatus, so constructed as to be moved either way from the actual centre, and operate as a central support of such balance frame.

Second, the combination of a cross timber, constructed of two or more pieces and supported by a frame or joint, with one or more balance frames, in a house-moving apparatus.

Third, the shoes C, when constructed and attached to the shoes or runners B, substantially as and for the purposes specified.

Fourth, the roller guide K, when attached to a house-moving apparatus.

Fifth, the combination of a flexible cross timber, composed of two or more pieces *c c* connected together, with a balance frame, runners B, and self-adjusting short shoes or runners C′, each of said parts and combinations being constructed and operating substantially as set forth and specified.

No. 50,376.—ROBERT MOOD, Indianapolis, Ind.—*Safety Valve for Steam Generators.*—October 10, 1865.—The object of this invention is to control the operation of safety valves of steam generators so that the valve cannot be tampered with, but remains adjusted as left by the inspector, at a given pressure of steam deemed safe and desirable. Its novelty consists in the arrangement of the valves, lever, spring, cross-bar, and eccentric.

Claim.—The arrangement of the valves, lever, spring, and cross-bar with the eccentric, substantially as set forth.

No. 50,377.—H. L. MOULTON, Camden, N. J.—*Carding Engine.*—October 10, 1865.—In this invention, in order to strip from the doffing cylinder a sliver more uniform than usual, and to reduce the wear of the carding engine, a revolving cylinder is used, having combs which are caused in each revolution to project from the face of the cylinder by means of a stationary cam, and to withdraw by the action of springs; a revolving tube at the side of the frame receives the sliver as it is stripped from the doffer, and gives it a twist in the same direction that it was rolled by the action of the stripper.

Claim.—First, the revolving drum or cylinder, with the combs *h* and the springs *m*, or their equivalent, in combination with the stationary cams F F and doffing cylinder B, the whole constructed, arranged, and operating substantially as and for the purpose herein set forth.

Second, the combination of the tube H, a stripping cylinder, having combs operating substantially as described, and the doffing cylinder B.

No. 50,378.—GEORGE MULLEAR, San Francisco, Cal.—*Bench Plane.*—October 10, 1865.—This invention consists of a metal cap held against the bit by means of a screw passing from the heel of the plane to the nut in contact with the cap and bit, so that, by another screw through the cap to the same nut, the cap is held in contact with the bit and adjusted while the bit is firmly held by the heel screw.

Claim.—First, the screw I, traversing blocks M and N, and cap H for clamping and holding the bit and turning the shoving cut, substantially as described, whether the cap is made adjustable, horizontal, or otherwise.

Second, making the cap H adjustable higher or lower on the cutting bit by means of the brackets O, grooves P, and screws F and G G.

No. 50,379.—JOSEPH W. NORCROSS, Middletown, Conn.—*Tackle Block.*—October 10, 1865.—This invention consists in the use of a metal frame, having three spaces, the centre one of which takes the sheave, and the outer ones take the wooden cheeks of a tackle block; the said frame being cast or otherwise produced from metal in such a manner that the cheeks can be readily introduced in the spaces intended for them, and by driving a suitable wedge in the middle space the frame is made to clamp said cheeks. The said frame is also provided with a small metal seat to receive a rope becket so as to prevent it from wearing, which is apt to be the case with the ordinary eye or rings.

Claim.—The metal frame A *f*, in combination with the enclosed wooden cheeks, substantially as and for the purpose described.

No. 50,380.—PATRICK B. O'NEIL, St. Mary's Villa, Great Britain.—*Salinometer.*—October 10, 1865.—This invention consists in the construction of a salinometer with an outer tube and a flexible diaphragm upon which rests a weighted tube, so as to indicate any varying pressures of the saline column, in combination with a hydrometer.

Claim.—First, the salinometer formed with an outer tube and a flexible diaphragm, upon which diaphragm rests a weighted tube, balancing a given column of fluid of a known density, so as to indicate varying pressures of the saline column, substantially as specified.

Second, in combination with the salinometer, fitted and acting as specified, the hydrometer, applied and acting as set forth.

No. 50,381.—FRANCIS PEABODY, Salem, Mass.—*Musical Instrument.*—October 10, 1865.—This invention consists in the employment, in connection with the pedals and bellows of a melodeon, of a fly wheel, a crank shaft, and certain pitmen connecting the pedals with the cranks of the shaft, for the purpose of generating momentum to be used in maintaining and regulating the operation of the bellows, and the motion of the automatic mechanism by which the keys (in this instance) are played.

Claim.—First, the combination of one or more fly wheels, cranked shafts and pedals, with the automatic mechanism which in such instrument may be used for actuating those parts of

it by which its musical sounds are produced, such fly wheels or wheel, cranked shaft or shafts, and pedal or pedals being used substantially in manner as hereinbefore explained.

Second, the arrangement of the exhausting bellows *b*, the exhaust or vacuum bellows *a*, and the shaft M.

Third, the improvement, as described, for operating the exhausting bellows, the same consisting in the expansive spring of the bellows, the contractile strap *c*, the pulley *d*, the pedal, its rod Y, and the cranked shaft T, provided with a fly wheel, as specified.

Fourth, the combination of ungearing mechanism, viz., the slide O, the levers P Q′, and rods Q Q2, with the mechanism for revolving the dent plate and its supporting gear.

Fifth, the combination of the separate adjustable mandibles F F, with the dent plate M, and the two series of base and treble levers D thereof.

No. 50,382.—ALFRED PELL, New York, N. Y.—*Railroad Signal.*—October 10, 1865.—This invention consists in combining a signal or flag with mechanism to keep the signal in motion without requiring attention or labor on the part of the signal-man.

Claim.—A signal, constructed and operated substantially as described, for railroad or other purposes, so as to be kept in motion by mechanical power.

No. 50,383.—D. L. PICKARD, Rochester, N. Y.—*Water-proof Blacking.*—October 10, 1865.—This invention consists of a composition of beeswax, lard, white pitch, linseed oil, and copal varnish.

Claim.—The compounding of the several ingredients, as specified, so as to produce a composition substantially such as herein described.

No. 50,384.—ELBRIDGE S. PIXLEY, Great Barrington, Mass.—*Composition for Filling the Pores of Wood.*—October 10, 1865.—This invention consists of a composition of glue, acetic acid, boiled oil, and alcohol.

Claim.—The use of acetic acid to destroy the adhesive property of the glue, and the combination of the various ingredients named in such way as to secure the object desired.

No. 50,385.—E. A. POND, Rutland, Vt.—*Manufacture of Illuminating Gas.*—October 10, 1865.—This invention consists in combining with the ordinary coal gas, atmospheric air charged with hydrocarbon vapor. The air is charged with the vapor and mixed with the gas at the gas-works, or it may be let into the gas pipes at a point beyond the meter when desired.

Claim.—First, a new illuminating gas, the same consisting of carburetted hydrogen gas mixed or combined with atmospheric air, charged with the vapor of hydrocarbon fluid.

Second, the manner herein described of mixing the two gases at the works generating the two, or in the tube supplying the burner, or at the burner, substantially as set forth.

No. 50,386.—NATHAN POST, East Cleveland, Ohio.—*Buckle.*—October 10, 1865.—This invention consists of a body, a cross-bar, a tongue bar, and a loop bar, one end of which moves on a pivot, while the other comes in contact with the end of a bar made on an inclined plane, so that, by the falling of the loop bar on the inclined plane, a gentle pressure is given and the buckle is shut.

Claim.—The body A, the cross-bar W, the tongue bar H, and the loop bars E G, constructed, arranged, and operating as and for the purpose set forth.

No. 50,387.—T. WILLIS PRATT, Boston, Mass.—*Safety Coal Trap.*—October 10, 1865.—This invention consists of a coal trap provided with lids hinged to the side of a frame placed in the sidewalk; one of the lids having a flap extending under the other lid, and having a notch or projection on its outer edge, into which the edge of the other lids catches, thus holding the trap open; the aperture formed by the open trap being toward the street, and the surfaces presented to the pedestrian being smooth and inclined to each other, forming a roof over the vault hole, and avoiding the occurrence of the dangers incident to the ordinary coal traps.

Claim.—A coal trap consisting of two lids C D, hinged to the frame A, in combination with a flap *a*, which extends under one of them when closed, and forms a support for both lids when open, substantially as and for the purpose set forth.

No. 50,388.—JOHN M. RANDLE, Brightons Ill.—*Harvester Rake.*—October 10, 1865.—This invention consists in the combination and arrangement of devices indicated in the claim, and shown in the engraving.

Claim.—The derrick G, in combination with the pitman *c′*, and connecting rod *c*, the pitman *m*, and sliding head *i′*, and guide *n′*, the bent lever J, and rake rods H′ and H″, when such parts are constructed and operated as described and set forth.

No. 50,389.—ETHAN ROGERS, New York, N. Y.—*Valve for Steam Engines.*—October 10, 1865.—This invention consists of a valve which rotates upon its seat and has a cut-off resting upon its back or upper surface, and which is supported upon a series of rings underneath its

central portion for the purpose of preventing an undue amount of friction upon the rubbing surface of the valve. The main valve is so arranged that it makes but one revolution while the piston is making fourteen strokes, or while the main shaft is making seven revolutions. The cut-off valve rests upon the back of the main valve, and is adjustable by means of a screw, but otherwise it has no motion, the cutting off being accomplished by the main valve.

Claim.—First, in valves for steam engines which have a constant onward movement around their centre, constructing them with several steam openings, so arranged that the engine shall make a plurality of revolutions while the valve makes one, and that they communicate with two, three, or more of the ports of the cylinder simultaneously, in constant succession, substantially as described.

Second, in valves which have a constant motion around their centre, giving to them a speed less than the speed of the engine shaft in the proportion of the number of their steam openings, so that one entire revolution of the engine shall move the main valve only the distance from one of its steam openings to the next steam opening, substantially as described.

Third, supporting or counterbalancing the main valve by means of, or upon, one or more rings *s*, at the centre of said valve, substantially as described.

Fourth, the graduated cut-off valve H on the back of the main valve, so constructed and applied, substantially as shown, that the steam is cut off by the motion of the main valve.

Fifth, the exhaust passages Q, made and arranged in the main valve intermediate of the steam passages, substantially as described.

Sixth, in combination the main valve N and the cut-off H, when constructed and arranged substantially as described.

Seventh, the arrangement of the steam and exhaust ports U and L, in combination with the main valve N, substantially as shown.

No. 50,390.—JOSEPH RYAN, St. Louis, Mo.—*Dry Dock.*—October 10, 1865.—This dry dock is sectional, and is so constructed that it can be kept on an even keel by the use of the engines on one or both sides at the same time. One or more of the sections may be raised or lowered on either side at the same time, for the purpose of straightening vessels that have become "hogged" or bent out of shape. This raising and lowering is effected by the introduction of water into the sections through the operation of pumps and scuttle valves.

Claim.—First, connecting the entire series of chambers G′, in the hold of the vessel A, with the two pump wells G″ thereof, by means of a main pipe D, branch pipes D″, and controlling gates D′, so that their pumps may be used singly in connection with all of said chambers or compartments, substantially in the manner herein specified.

Second, the scuttle doors *a*, and the scuttle valves *a‴* and E, constructed and operating as described.

Third, the separation of each of the ballast chambers A′ and A″ into two compartments, by means of the partition K, and connecting the chambers A′ and A″ together, by means of the pipe *l* and the sleeves *e* and *e″*.

Fourth, the wrist C, the rollers P and P″, in connection with the frame P‴, and the clutches *d⁗* and *d⁗′* in connection with the levers *o* and connecting bar N″, all constructed and operating substantially as described.

Fifth, in combination with the centre pump F⁗′, in either well G‴, a double plunger, operated by the working beams *d*, substantially in the manner and for the purpose herein set forth.

Sixth, in combination with an improved dry dock, constructed substantially as described, the bent valve rod L′, in connection with the arm L″, the rock shaft L‴, and the lever L⁗, constructed and operating substantially as set forth.

Seventh, the movable cradle beam B, in connection with the cam wheel H, the endless screw *l″*, the cog wheel *x*, and rack *x″*, and the tracks *x′* and *r*, substantially as described.

Eighth, in combination with and as a part of an improved dry dock, constructed as herein set forth, the hinged staging A‴, constructed and arranged substantially as described.

No. 50,391.—ANDREW V. RYDER, German, Ohio.—*Horse Rake.*—October 10, 1865.—This invention consists of a lever pivoted upon one of the shafts of a wheel horse rake, to which lever is attached a bar connected at its other end with the rake teeth, in such a manner that when the lever is thrown forward by the driver the rake teeth are raised.

Claim.—The particular arrangement and combination of the levers G and F with the swinging bars L, clearing bar J, and rake head D′, substantially as and for the purpose set forth.

No. 50,392.—BENJAMIN SAUNDERS, Nashua, N. H.—*Spool for Winding Yarn for Beaming.*—October 10, 1865.—In this invention when the yarn on the bobbin gives out or breaks, or when a full spool is to be replaced by an empty one, the foot treadle causes the spools to rise free from the friction rollers, leaving both hands of the operator free to piece or join the yarn, or to remove the spool. There are adjustable screws for regulating the height to which the outer ends of the treadles may be lifted from the floor, by the weight of the levers, frames, and spools.

Claim.—First, connecting the bearings *i i* of the spools of a spooler with treadles, substantially as and for the purpose herein specified.

Second, the spool frames E E′ sliding in guides *d d*, in combination with the levers F F′, or their equivalents, and treadles G G′, substantially as and for the purpose herein described.

Third, the adjusting screws *h h′*, in combination with the levers F F′, and treadles G G′, substantially as and for the purpose herein set forth.

No. 50,393.—CYRUS B. SHAW, Brooklyn, N. Y.—*Window Frame and Sash.*—October 10, 1865.—This invention consists in attaching to the middle stop of a window frame, on each side thereof, a strip which works in a groove cut in the side of the sash to form a weather joint, also in the mode of joining the upper and lower sash.

Claim.—The construction of sash and window frames, herein described, for the purpose specified.

No. 50,394.—GEORGE SHIELD, Cincinnati, Ohio.—*Cone Valve.*—October 10, 1865.—This invention consists in providing a valve which is made hollow, with apertures passing through its face for the discharge of the water. It is also provided with a tubular stem which serves as a guide for the valve. The water to be discharg·d through the pump or other device in which the valve is placed enters the tubular stem and passes up through the centre of the valve, and is discharged through the apertures above described; by this arrangement, the face of the valve and seat of the same are protected from the action of the water as it passes through the valve.

Claim.—A hollow cone valve with a tubular stem *a*, and perforated with apertures *c*, substantially as and for the purpose described.

No. 50,395.—REUBEN SISCHO, Tuscola, Ill.—*Bolt Cutter.*—October 10, 1865.—This invention consists in the combination of the frame, cutters, screw bolt for forcing the cutters together, and a small bent arm for drawing the movable cutter back.

Claim.—The employment of frame A, bits B and C, rod D, and bar E, arranged and used as and for the purpose herein specified.

No. 50,396.—ALBERT M. SMITH, Brooklyn, N. Y.—*Guides for Sewing Machines.*—October 10, 1865; antedated September 27, 1865.—This invention is designed as an improvement upon Barnum's patent of February 12, 1860, and Conant's patent of December 20, 1864. The lower clamping piece used by them is dispensed with, the bed-plate of the sewing machine answering the same purpose.

Claim.—A single springing plate with one or more corrugations or ridges, and a piece A with lips *b* secured to it back of the line of sewing; said plate, when attached to a sewing machine, forming the clamping and guiding surface, and the bed plate the supporting surface of the cloth, substantially as herein described.

No. 50,397.—ERNST SMITH, New York, N. Y.—*Sofa or Lounge.*—October 10, 1865.—This invention consists of a segmental plate having a slot cut in it, and provided with suitable teeth, in which is fitted to work a stop which is connected to a sliding rod by which the arm of the sofa can be adjusted to any inclination desired; it also consists in the insertion of a roll of extra stuffing at the lower part of the arm where it joins the sofa.

Claim.—First, the segmental plate E, arranged to operate substantially in the manner and for the purpose specified.

Second, the device consisting of the parts *e f g*, in combination with the segmental plate E, substantially as and for the purpose specified.

Third, so stuffing the arm of the lounge or sofa that a protuberance will be made at the lower part thereof, for the purpose herein specified.

No. 50,398.—N. E. SMITH, Cleveland, Ohio.—*Lightning-rod Joint.*—October 10, 1865.—This invention consists in reducing the diameter of one end of the tube by swaging until it is of the proper size to fit snugly in the bore of the other tube, and when thus swaged and inserted, a swaging device is applied to the outer surface over the lap and the two tubes are swaged inwards in such a manner as to leave externally a concentric groove by which the two sections are held together and prevented from separating.

Claim.—Connecting the sections of lightning rods, as herein specified.

No. 50,399.—DANIEL E. SOMES, Washington, D. C.—*Mode of Cooling Water in Wells.*—October 10, 1865.—In this invention the well or spring is enclosed in a series of curbs made of cast-iron, placed concentrically to each other with air spaces between, so that only water from the bottom is permitted to enter the inner vessel or curb.

Claim.—Constructing curbing or walls for wells, substantially as described.

No. 50,400.—ISRAEL H. SOUTHWORTH, Essex, Conn.—*Comb.*—October 10, 1865.—In this invention each blade of the comb, whether in one or several pieces, slides into a central bar grooved at each edge to receive it.

Claim.—As an improvement in the manufacture of fine-tooth combs the grooved holder *b*, into which are fitted the halves or pieces *a*, substantially as described.

No. 50,401.—EZRA SPRINGER, Davis, Ill.—*Washing and Wringing Machine.*—October 10, 1865.—This invention consists in an arrangement of pressure rollers, an endless apron with an adjustable roller frame, and a hinged bed, so that the latter can be automatically adjusted by the movement of the said frame.

Claim.—First, the adjustable roller frame B, provided with two springs G G′, arranged in such a manner that one or both may be made to act upon the lower or adjustable roller F, as required.

Second, the chamber I, at the bottom of the suds box A, when used in connection with the roller frame B, substantially as and for the purpose specified.

Third, the bed N, connected with the adjustable frame B, in the manner as shown, or in any equivalent way, so that it will be adjusted automatically by the movement of said frame, substantially as described.

No. 50,402.—NESBITT D. STOOPS, Newark, N. J.—*Caster for Sewing Machines.*—October 10, 1865.—This invention consists in attaching to the legs of sewing machines, casters that can be locked to prevent the machine from moving on the floor when in operation, and adjusted so that they can be moved when desired without lifting.

Claim.—Attaching a caster, constructed substantially as described, to the leg of a skeleton frame sewing machine, in substantially the manner and for the purposes described.

No. 50,403.—R. THAYER and J. MCCLELLAND, Pittsburg, Penn.—*Cultivator.*—October 10, 1865.—The novelty of this invention consists in the combination and arrangement of the several parts of the cultivator for the purpose of obtaining strength and durability.

Claim.—The herein described arrangement and combination of the beam A, standards B B′, handles C C′, braces D D′, and bolts *a d h i*, as and for the purpose specified.

No. 50,404.—A. H. TREGO, Trenton, N. J.—*Combination of Blotter, Paper Weight, Rule, Cutter, and Square.*—October 10, 1865.—This invention consists in the combination of a blotter, paper weight, paper cutter, ruler, rule, square, and pen-wiper, in one implement.

Claim.—First, the plates A and B, in combination with each other, so arranged that a piece of blotting paper may be clamped over a level surface, as shown and described.

Second, the metallic strips D, in combination with the plate B, substantially as and for the purposes herein mentioned.

Third, the spring plate E, for clamping a sponge or other substance on which to wipe the pen, in combination with the plate A.

Fourth, the receptacle C, in combination with the plate A, and screw rod *a*, for the purpose mentioned.

Fifth, the combination and arrangement of the several parts, as herein shown and described.

No. 50,405.—SIGOURNEY WALES, Boston, Mass.—*Cord for Window Sash.*—October 10, 1865.—This invention consists in combining with a window sash a weight, cord, and its knot, by means of which one end of said cord is confined in a cavity in the sash, and a wire helix encircling the knot and receiving the cord between two of the coils of the helix, for the purpose of preventing the said knot from slipping out of its hole.

Claim.—The arrangement and combination of the wire helix A with the sash-weight cord *c* and its knot *b*, substantially as described.

Also, the wire helix A, as made with the arch or bend *c*, to span the cord above its knot, when applied thereto as specified.

No. 50,406.—JOHN M. WARREN, Boston, Mass.—*Polish for Glass.*—October 10, 1865; antedated September 28, 1865.—This invention consists of a composition made of two quarts of saturated solution of carbonate of potash, three quarts of whale oil, five pounds of rottenstone, and twenty-five pounds of whiting.

Claim.—The compound for polishing glass and other substances, as herein described.

No. 50,407.—JAMES WATT, Buffalo, N. Y.—*Valve Gear of Steam Hammer.*—October 10, 1865; antedated September 25, 1865.—This invention consists in the arrangement of a lever placed upon the piston rod of the engine and extending forward toward the hammer so as to reach and encircle a standard upon which the cams are placed, and are moved up and down so as to control the induction and eduction of the steam in the cylinder. These cams are also attached to levers by rods in such a manner that their position can be easily changed upon the standard, so that the arm upon the piston rod will come in contact earlier or later in the stroke of the engine, thus cutting off and providing for the exhaust of the steam at any desired point. The exhaust passages are so arranged that the steam from the under side of the piston, after having raised the hammer, is allowed to escape and pass over to the top of the piston, and aid in giving force to the down stroke.

Claim.—First, the arrangement of the cams T U with their connection so that they may be placed and used in such position as to insure the taking and cutting off steam instantly, at any part of the movements of the hammer, substantially as set forth.

Second, the exhaust port R R′, so arranged that the exhaust steam may be had directly from the steam chest over the piston head, and thereby increase the force of the blow given by the hammer, substantially as described.

No. 50,408.—A. O. WILLCOX, Port Richmond, N. Y.—*Stove.*—October 10, 1865.—This invention consists in providing a stove with a drawer beneath the ash-pan, said drawer being for the purpose of containing a fresh supply of fuel, thus dispensing with the ordinary coal-hod. The apparatus is provided with a bail or handle, by which it can be carried.

Claim.—The combination with a stove of a pan or drawer, of holding a supply of fuel, said pan being placed beneath the ash-pan, substantially as and for the purpose above set forth.

No. 50,409.—W. W. WILLS, Janesville, Wis.—*Leverage.*—October 10, 1865.—This invention consists in an arrangement of levers, sliding bar, roller pivoted in the end of the sliding bar, all arranged in a main frame for the production of a system of leverage.

Claim.—The adjustable sliding bar *d*, and roller *e*, in combination with the counteracting levers *c′ c*, when arranged substantially as described, and operated in the manner specified.

No. 50,410.—F. M. WOODS, York, Ill.—*Machine for Pressing Sheet-metal Pans.*—October 10, 1865.—This invention consists of a table having two uprights, the upper ends of which are united by a bar; said uprights form the guides for a beam which carries the punch, and to which a rising and falling motion is imparted by a treadle. The punch is secured to the beam by means of a stem, the lower end of which fits in a socket in the punch. The punch is made to correspond to the shape of the pans to be produced, and from its corners project wings which, when the punch is depressed, fit into corresponding slots in the corners of a die; this die is constructed of a series of sections which are made wedge-shaped, and is held in position by adjustable brackets.

Claim.—First, the arrangement of wings *a*, in the corners of the punch, in combination with corresponding grooves in the corners of the die, substantially as and for the purpose described.

Second, making the die H in sections, substantially as and for the purpose described.

Third, the adjustable brackets *b*, in combination with the die H, constructed and operating substantially as and for the purpose set forth.

Fourth, the combination of movable frames J with the die H, substantially as and for the purpose specified.

No. 50,411.—HENRY YOUNG and MARTIN STACHELIN, Port Chester, N. Y.—*Hinge.*—October 10, 1865.—This invention consists in arranging in the hollow spindle of the hinge a bar of steel, the ends of which are secured in plugs inserted in the ends of the spindle, and which are connected respectively with the two leaves of the hinge.

Claim.—The hollow spindle D, bar E, and plugs F G, in combination with the two wings of a hinge, substantially as and for the purpose set forth.

No. 50,412.—HEINRICH A. ZOPFF, Milwaukee, Wis.—*Apparatus for Making Coffee.*—October 10, 1865.—In this apparatus the steam generated from the water in the lower part of the same passes up through a central pipe into the conical top of the chamber containing the coffee, and, being condensed here, falls through a perforated diaphragm upon the coffee, and, dripping through the perforated bottom of this receptacle, flows off to any desired vessel.

Claim.—First, the general arrangement of the apparatus for making coffee, herein described, the same consisting of the water receptacle or steam generator, a perforated coffee receptacle *a′*, provided with or not, as may be desired, an outer covering or casing *q* and steam tube *o*, connected together, and operating substantially in the manner specified.

Second, the conical-shaped end or nozzle to the steam pipe *o*, substantially as and for the purpose specified.

No. 50,413.—JOHN S. BARDEN, assignor to NEW ENGLAND BUTT COMPANY, Providence, R. I.—*Valve Gear for Steam Engines.*—October 10, 1865.—This invention consists in combining with the valve rod a sliding block so arranged as to move vertically in guides at the end of the valve rod. The lever to which the eccentric rod is attached passes through a cylinder having its bearings in the sliding block, and its upper end attached to the valve rod. The spindle of the governor rests upon the upper end of the above-named lever, so that, as this spindle is moved up or down by the motion of the governor balls, the upper or short arm of the lever is lengthened or shortened, and more or less throw is given to the valve, and more or less steam is admitted to the cylinder, according to the requirements for such change.

Claim.—The combination and arrangement of the cylinder *i′*, the slider *t*, and the guides *m m*, with a slide valve A and rocker lever *h*, the whole being substantially as and to operate as hereinbefore explained.

Also, the combination of the ball governor with the slide valve of a steam-engine cylinder by means as described, or the equivalent thereof, whereby such slide valve shall be controlled in its movements by the ball governor in manner as specified.

No. 50,414.—JASPER BILLINGS, assignor to himself, THOMAS D. MITCHELL, and A. KUHNS, Dayton, Ohio.—*Fruit-drying House.*—October 10, 1865.—In this invention the furnace in the lower part is inclined, the end near the door being lowest, and from the sides of the opposite end branch out two pipes inclined longitudinally and returning to the exit flue near the front part of the drier. The fruit is dried on a series of racks or slatted frames in chambers over the furnace. The roof is arched, and at either side and near the wall are escape passages controlled by dampers. Over the apertures is a covering roof.

Claim.—First, constructing a fruit-drying house, with a furnace chamber A and an upper drying chamber D, having an arched roof G, escape flanges *d d*, and a covering roof H, substantially as described.

Second, arranging the furnace B and its flues *c*1 *c*2 within the furnace chamber A of a drying house, substantially as described.

Third, the elevated open-bottom furnace chamber A and inclined furnace B, in combination with the upper drying chamber D, having outlets *d d*, with valves or dampers applied to them, substantially as herein described.

Fourth, the manner herein described of constructing the drying chamber with the arched curved roof G, covering roof H, and valved passages, all for the purpose set forth.

No. 50,415 —HORATIO A. BLACK, assignor to himself, WM. L. BOYER, and H. K. BOYER, Philadelphia, Penn.—*Car Spring.*—October 10, 1865.—This invention consists in the combination of elliptic spring plates and corrugated plates with a piston, all placed within a suitable box.

Claim.—A metallic spring for railroad cars, consisting of the box A B, piston C D, plain plates E E, and the corrugated plates F F, arranged, combined, and operating together, substantially as described and set forth.

No. 50,416.—SAMUEL CHESNUT, assignor to himself and THOMAS JONES, Philadelphia, Penn.—*Cutting and Punching Spade Steps.*—October 10, 1865.—This invention consists in forming upon a cross-head, which works in the usual manner, punches in such a manner as to punch the step and give the proper form to the ends at one operation.

Claim.—The reciprocating cross-head E, with its projections *f*, *h*, and *i*, in combination with the block H, and its edges *x* and *y*, the whole being arranged for joint action, substantially as and for the purpose herein set forth.

No. 50,417.—WILLIAM CHOATE, assignor to himself, WM. TEEL, JOHN WHITMORE, and O. W. CLARK, Newburyport, Mass.—*Paddle Wheel.*—October 10, 1865.—In this invention the wheel has three sets of radial arms, the central arm being shorter than the exterior arms. Between the arms are placed diagonally curved floats, the floats extending across the axis of the wheel.

Claim.—A paddle wheel constructed with three sets of arms, with floats attached to them, so as to have a diagonally curved position, substantially as herein shown and described.

No. 50,418.—Suspended.

No. 50,419.—MARK ANTHONY CUSHING, Glenn's Falls, N Y., assignor to the GLENN'S FALLS PAPER COMPANY.—*Process for Treating Hemp, Flax, &c., for the Manufacture of Paper Pulp.*—October 10, 1865.—This invention consists of a liquor for treating flax, hemp, &c., prepared by mixing soda ash, borax, unslaked lime, and petroleum with boiling water. The mixture is allowed to boil for about fifteen minutes, and then cooled, after which the clear liquor is drawn off for use.

Claim.—First, the aforesaid method or process of preparing boiling liquor by the use of the ingredients before named, in the manner before described, substantially as and for the purposes therein described.

Second, the use of the above-described boiling liquor in the reduction of flax, hemp, swingling tow, and other woody and fibrous substances, in the manner substantially and for the purposes therein described.

Third, the use of the material thus treated, as flax, hemp, tow, and other woody and fibrous substances, in the manufacture of fine paper, whether in mixture with straw and other paper stock in any proportions, or unmixed.

Fourth, the use of crude or other petroleum, kerosene, benzine, or other oleaginous substances, in the manner substantially and for the purposes above described.

No. 50,420.—HENRY KELLOGG, New Haven, Conn., assignor to himself and WALLACE & SONS, Derby, Conn.—*Flat Wire Springs.*—October 10, 1865.—This invention consists in uniting two coils of wire and rolling them flat, forming flat wire springs, to be used as a substitute for whalebone and other similar purposes.

Claim.—The herein-described spring as a new article of manufacture.

No. 50,421.—CHARLES A. LAMONT, New York, N. Y., assignor to himself and DAVID A. BURR, Washington, D. C.—*Apparatus for Desiccating Eggs.*—October 10, 1865.—This invention consists of a chamber heated by currents of hot air, and provided with two or more

parallel shafts, upon which is arranged a series of thin metallic plates. A rod, parallel with and between the two shafts, is provided with scrapers, which can be made to act on either series of plates by means of a crank. A tank containing the eggs is so arranged that it may be brought under either set of plates, and elevated so that the plates may dip into the eggs.

Claim.—First, the within-described mode of desiccating eggs, by the use, in combination with a dipping trough or vat H, of one or more drying plates *s s*, secured upon a central revolving shaft D, substantially in the manner herein set forth.

Second, the use of one or more scraping blades *c c*, in combination with the revolving plates of an egg-desiccating apparatus, substantially as and for the purpose set forth.

Third, supporting the movable supplying trough H, of the improved egg-desiccating apparatus, upon adjustable ways *r r*, so arranged as to operate substantially in the manner and for the purpose herein set forth.

No. 50,422.—JOHN MCCLOSKEY, assignor to HENRY MCGUEKIN, New York, N. Y.—*Water-heating Apparatus.*—October 10, 1865.—This invention consists in an arrangement of water-heating apparatus for ranges and stoves, whereby the water for use in the kitchen and lower stories of a house is heated in, and supplied from, a boiler or heater independent of that in which water is heated for the higher stories.

Claim.—First, the water-heating apparatus above set forth, whereby different floors or apartments of a house or hotel may each have its own system of water-heaters, substantially as above described.

Second, operating the water spaces of the inner and outer cylinders by means of an air space, substantially as and for the purpose above described.

No. 50,423.—J. M. RILEY, assignor to himself and W. A. SCHMIDT, Newark, N. J.—*Hinge.*—October 10, 1865.—This invention consists of a spring door hinge, which closes the door by automatic action. It is of a length about equal to the door, and is so made as to conceal the spring and the parts which actuate it and are actuated by it, so that they are protected from the weather.

Claim.—First, constructing a continuous door hinge, in the manner and for the objects herein described and represented.

Second, the key D of the spring rod, and its pins *h*, in combination with the slot V of the tube E, substantially as above described.

Third, the combination of the semicircular plate J of the but *c*3, with the key D of the spring rod, substantially as described.

No. 50,424.—E. W. SKINNER, assignor to himself and O. S. WILLEY, Madison, Wis.—*Sorghum Evaporator.*—October 10, 1865.—This invention consists of a straight pan with a horizontals botom and inclined sides, and two transverse partitions which divide the pan into compartments. The first compartment has a partition extending from one side nearly across the pan, and openings are made in each partition, said openings being provided with gates. Under each partition there is a cold-air passage extending from one side of the pan to the other. and under the last partition is a hot-air space, which can be made to communicate with the furnace by means of a damper.

Claim.—First, the ledge *c*, extending from one side nearly to the other of a pan of the construction specified, so as to form a contracted channel C for the introduction of the juice, and an outlet *d* to bring it in sudden contact with the boiling sirup, all as herein explained and for the purpose stated.

Second, the combination of the transverse cold-air ducts D D with the wooden partitions *a a*, as and for the purpose specified.

Third, the combination of the hot-air chamber E, damper F, cold-air duct D, and chamber *b''*, all arranged as described.

No. 50,425.—JOSEPH STOLIKER, assignor to himself and J. W. MCKENZIE, Pine Run, Mich.—*Wheel.*—October 10, 1865.—The tire and felloes of this wheel are constructed of wrought iron or steel, and are of T form in transverse section. The spokes are constructed of iron or steel wire, and pass through a flange of the rim. At their inner ends they are provided with nuts operating in such a manner that the spokes may be strained as much as desired.

Claim.—A metallic wheel for vehicles and for other purposes, provided with spokes arranged or applied to the rim or tire so as to pass through a flange of the same, and connected at their inner ends to adjustable nuts or bosses on the hub, arranged in such a manner that the spokes may be strained or brought to a proper state of tension by spreading apart the nuts or braces, substantially as described.

Also, the crossing of the wires forming the spokes, and the securing of the inner ends of the same to rings E on the nuts D D, in the manner substantially as set forth.

Also, the combination of the rim or tire A, spokes B, hub C, nuts D D, rings E, and plates F with the nuts G G, all arranged substantially as and for the purpose specified.

No. 50,426.—EMIL VOSSNACK, assignor to himself and G. A. GOLDSMITH & CO., New York, N. Y.—*Machine for Folding Paper Collars.*—October 10, 1865.—In this invention a folding knife set in a frame is lifted and depressed by a cam movement. The knife, which

has a rounded edge, presses the collar into a rounded groove, condensing the fabric therein, and defining the edge preparatory to folding.

Claim.—First, the employment in a folding machine of the knife B and hard bed A with the shallow and rounded groove *a*, so combined as to form the fold in the material C, and condense the material on the exterior of the fold against the hard bed, substantially in the manner and for the purpose herein set forth.

Second, the combination of the freely falling knife B with the elevating and holding cams *e e*, and with a grooved bed A *a*, or its equivalent, adapted to compress and round the bend or fold in a paper collar or analogous weak material, all operating together substantially in the manner and for the purpose herein set forth.

No. 50,427.—I. P. WENDELL and STEPHEN USTICK, assignor to I. P. WENDELL, Philadelphia, Penn.—*Pedestal for Railroad Cars.*—October 10, 1865.—This invention consists in combining adjustable facings with the vertical arms of pedestals, between which the journal boxes of railroad cars are situated, to compensate for the wear occasioned by the vibration of the boxes.

Claim.—First, the extension plates B and B′, constructed and arranged in relation to the arms *a a* of the pedestal, and the journal box between the same, for the purpose of taking up the wear occasioned by the sliding of the said box, substantially in the manner hereinbefore described.

Second, combining the adjusting, conically-pointed screws C C with the arms *a* of the pedestal, and the extension plates B and *B′*, in conjunction with the screw D, they being arranged and operating substantially in the manner and for the purpose set forth.

Third, the combination of the cushion straps E with the arms *a* of the pedestal, and the extension plates B and B′, substantially as described and for the purpose specified.

No. 50,428.—MAXIMILIAN BURCHARDT, Berlin, Prussia.—*Self-feeding Plugging Tool for Dentists.*—October 10, 1865.—In this invention a cavity extends through the handle of the instrument, in which is placed the strip of gold foil, which is fed into the tooth by the projection upon the end of the tool.

Claim.—A self-feeding plugging tool for dentists, made substantially as herein shown and described.

Also, the cavity *a*, extending throughout the entire length of the tool, and operating in combination with the tongue *l*, and with the plugging material, substantially as and for the purpose set forth.

No. 50,429.—V. DUBOURG, Paris, residing in the city of Frankfort-on-the-Main, Germany.—*Gas-burner.*—October 10, 1865.—This invention consists in the combination of a tube or chimney formed of clay or other analogous non-conducting material, provided with an upwardly projecting rim. The burner is provided with a perforated and reticulated grate for the purpose of equalizing the pressure.

Claim.—First, the combination of the tube or chimney *a*, of clay or analogous non-conducting material, and the upwardly projecting metal rim *f*, arranged and operating as described.

Second, while disclaiming the general idea of applying a grate to a gas-burner to equalize the pressure, the particular combination of the perforated and reticulated diaphragms, constructed and operating as specified.

No. 50,430.—WILLIAM GIBSON, Lanark, Scotland, assignor to HENRY BAXTER and JOHN A. FITCH, Highgate, Vt.—*Perpetual Almanac.*—October 10, 1865.—This invention consists of a circular card on which are inscribed several columns of figures. A margin is left around the edge of the card free of figures, on which is pasted a ring which bears the names of the days of the week, the figures representing the days of the month, and the names of the months.

Claim.—The combination and arrangement of the perforated and unperforated disks, the ring and the slider, the whole being applied to a supporting standard or frame, and being made and marked substantially as described.

Also, in combination with the disks the ring supporting frame and slider, the detachable piece H carrying the said box and the slider, the whole being substantially as and for the purpose specified.

No. 50,431.—FERDINAND KUP, Frankfort-on-the-Main, Germany.—*Gas-burner.*—ber 10, 1865.—This invention consists in the application of an adjustable jacket on the gas-burner to regulate the quantity of air admitted to the flame.

Claim.—An adjustable jacket or casing applied to a gas-burner, substantially as and for the purpose set forth.

No. 50,432.—WESTLEY RICHARDS, Birmingham, England.—*Breech-loading Fire-arm.*—October 10, 1865; patented in England September 11, 1862.—In this invention the barrel tilts upward at the breech, swinging on a stirrup or looped bolt solidly connected with the breech-plate. It is locked in position by a spring-catch of peculiar construction, pivoted to a

thumb-piece or lever in such manner that to whichever side it is moved the spring-catch is withdrawn.

Claim.—First, the self-acting spring-catch mounted on the tang of the breech-plate or on the top of the stock, and taking into a notch in a projection from the upper part of the barrels, or into a notch in the upper part of the barrels themselves, substantially as described, and independently of the position of the thumb-piece or lever which actuates the said catch.

Second, the thumb-piece, mounted on the tang of the breech-plate or on the top of the stock, and actuating a spring-catch, substantially as described and independent of the position of the said catch, whether it be over or under the barrel.

Third, the self-acting spring-catch, in combination with its thumb-piece, both mounted on the tang of the breech-plate, substantially as described.

Fourth, the inclined projection from the upper part of the barrel entering a corresponding inclined recess in the breech-plate so as to hold the two firing together, substantially as described.

Fifth, the making the axes on which the barrels turn in one solid piece with the body, substantially as described.

No. 50,433.—A. TRAUTH, Chemnitz, Saxony.—*Rifling Fire-arm.*—October 10, 1865.—In this invention the rifle grooves are formed of less width at their bottom than at the surface of the bore, and also diminish both in width and depth from the breech to a point near the middle of the length of the bore, and from thence to the muzzle preserving the same size and shape.

Claim.—The production of rifle grooves with a trapezoidal cross-section, and extending through the chamber of the barrel in a parallel direction, thence diminishing in depth and width to about the middle of the length of the barrel, more or less, and finally passing on with uniform depth and width to the muzzle, substantially as and for the purpose described.

No. 50,434.—JOHN G. WOODWARD, St. John, N. B.—*Ventilating Apparatus for Steam Vessels, &c.*—October 10, 1865.—In this invention a ventilating casing of sheet or other metal surrounds the smoke-pipe and extends a little above it so as to increase the draught in the same. In front of the furnace is a hood so arranged as to direct a draught of the heated air into the casing, and about the boiler is a casing with air spaces at the end and around the smoke pipe to create a draught from remoter parts of the engine space and carry off the radiated heat of the boiler.

Claim.—First, a ventilating casing around or contiguous to the smoke-pipe funnel, substantially as set forth, so that the ventilating current of air may be induced by the heat of the smoke-pipe, as set forth.

Second, extending the ventilating casing above the top of the smoke-pipe or funnel, to increase the rapidity of the escape of the products of combustion from said smoke-pipe, as set forth.

Third, a partition or hood extending down in front of the furnace at a short distance from the same, in combination with the ventilating casing around the smoke pipe, as specified.

Fourth, enclosing the boiler in a casing made of sheet-metal a short distance from said boiler, leaving an air space as set forth, said casing being removable in sections, as specified.

No. 50,435.—AUGUSTUS JORDAN, Washington, D. C.—*Apparatus for Receiving and Distributing Mails on Railroad Cars.*—October 10, 1865.—This invention consists in so constructing a railway postal car that a door can be opened and closed by means of a cog-wheel arrangement connected with the car, extending down below it, and operated by the lower connection coming in contact with an elevated rail at the station where the mail bag is to be delivered. This door or shelf has a partition that comes in contact with the mail bag hung upon a pivoted lever attached to a post and receives the mail bag, closing immediately upon passing beyond the elevated rail.

Claim.—First, the shutter B opening and closing upon a horizontal axis parallel with the direction of the car's movement, substantially as described.

Second, in combination with the shutter B the shelf H and partition I, substantially as and for the purpose set forth.

Third, in combination with the shutter B the pinion C and rack D, substantially as described.

Fourth, in combination with the partition I the set nut J, substantially as described and for the purpose set forth.

Fifth, giving an automatic movement to the part or parts by which mails or packages are received into or delivered from railroad cars when in motion by the stationary cam or camber rail G, placed beside the railroad track rail, as described, in combination with the rod E and roller F.

No. 50,436.—ALONZO C. ARNOLD, Norwalk, Conn.—*Adjustable Weeding Hoe.*—October 17, 1865.—This invention consists in an arrangement of devices by which the hoe is adjusted vertically or at an inclination.

Claim.—The set screw F and plate C, in combination with the slotted stem G, in the manner and for the purpose substantially as herein described.

No. 50,437.—J. S. and T. B. ATTERBURY, Pittsburg, Penn.—*Manufacture of Drinking Glasses.*—October 17, 1865.—This invention consists in the manufacture of a glass vessel having a colored depression in its base in the likeness of a human face, produced therein by inserting a medallion in the plate and pressing the same in the mould.

Claim.—As a new article of manufacture a glass vessel having a colored depression in its base in the likeness of a human face, or other figure, produced therein by the means substantially as described.

No. 50,438.—EDWARD BADLAM, Ogdensburg, N. Y.—*Grain Drill and Cultivator Combined.*—October 17, 1865.—In this invention cutter wheels with flattened metallic spokes or blades rotate between bars carrying cultivator teeth, and also the drill teeth for sowing the grain. This entire arrangement of bars is elevated and depressed by a hand lever, and the cultivating apparatus, including cutters and bars with the frame, is raised and lowered by levers carrying draught wheels upon their lower ends.

Claim.—The combining and arranging of the cutter wheels C C, on shaft B, with the cultivator teeth as arranged on bars F F, with the drill teeth G G, seed boxes I and O, and roller P, and conducting tubes H H, with the quadrangular frame A, and wheels M M, all combined and arranged in the manner and for the purpose herein set forth.

No. 50,439.—L. B. BARTON, Metamora, Ill.—*Cultivator.*—October 17, 1865.—This invention consists in the combination and arrangement of the double-tree, beam, lever, and connecting rod with the standard, cross-bar, and lever attached to said bar, whereby the ploughs are raised from the ground.

Claim.—First, the combination and arrangement of the lever *h*, beam D, and double-tree P, as shown in Fig. 4.

Second, the lever *h*, in combination with the double-tree P, rod *e*, and beam D, the latter having its front end pivoted to the main frame, and all the parts arranged to operate as and for the purpose herein set forth.

Third, the harrows *b*, in combination with the central swinging ploughs, as shown and described.

Fourth, the combination and arrangement of the standard L, lever O, and cross-bar B, as and for the purpose set forth.

No. 50,440.—LEWIS H. BIGELOW, Philadelphia, Penn.—*Horseshoe Machine.*—October 17, 1865.—In this invention the bar is fed into the machine in front of the two rollers, and a sufficient portion is cut off to form a shoe; a sliding block projecting from within the dies of the lower roll, and having a form corresponding with the inside of the shoe, strikes against the blank and carries it between two small flanged rollers which form it around the said sliding block. The block then carries it forward until it is brought in contact with dies in the upper roll, beteewn which and the lower dies the shoe is formed; the sliding block beforementioned being forced into the roller beyond the dies, forces the finished shoe out by means of the springs behind it when relieved from the pressure of the upper die.

Claim.—First, the revolving cylinder D and its dies *b*, in combination with the cylinder D′, its counter dies *f′*, sliding blocks E, and springs *d*, or the equivalent to the said springs, the whole being arranged and operating substantially as and for the purpose herein set forth.

Second, the spring bars H H with their flanged pulleys *g*, in combination with the sliding blocks E and cylinder D′, the whole being arranged and operating substantially as and for the purpose herein set forth.

Third, the adjustable plates I I, in combination with the adjustable vibrating cutter L.

No. 50,441.—VIRGIL W. BLANCHARD, Bridport, Vt.—*Harvester.*—October 17, 1865.—This invention consists in the arrangement of means for changing the speed of the cutters; of springs upon the pitman for relieving the gearing from the jar consequent upon a rapid vibration of said cutters; of the arrangement of the wheel for supporting the inner shoe, and in the means for balancing the cutters.

Claim.—First, the combination of the two wheels E E of unequal diameter, the spring F, clutches *a b* I, and wheels or pulleys H H′, all constructed and arranged to operate substantially as set forth.

Second, the arrangement of the springs T T on each side of the crank box at the upper end of the pitman N, for the purpose specified.

Third, the combination of the wheel R and spring S, when arranged in line with the shoe Q and wheel D, as and for the purposes set forth.

Fourth, the combination of the counterpoise bar N, pendant O, brace bar P, and loose joints *e f g h*, arranged and operating substantially as and for the purposes set forth.

No. 50,442.—MILTON BOWCKER, Fitchburg, Mass.—*Centre Punch.*—October 17, 1865.—This invention consists of two hand levers pivoted together at one end, to the centre of which upon the inside are secured two right-angled jaws in a vertical position. Upon the top of these jaws are pivoted two arms projecting upward and curving towards each other, where they are pivoted to a yoke having a hole in its centre through which a sleeve projects down-

wards, and at the lower end of which it is connected by toggle joints to the centre of the aforesaid arms.

Claim.—The improved shaft-centring apparatus as composed of the levers A A, the recessed jaws B B, the punch G, the punch carrier C, the arms E E, the toggles D D, and the slider F, arranged and jointed or applied together substantially in manner and so as to operate as specified.

No. 50,443.—RICHARD C. BRISTOL, Chicago, Ill.—*Balance Puppet Valve.*—October 17, 1865; antedated October 8, 1865.—The object of this invention is to cause balance puppet valves to be tightly seated irrespective of varying degrees of heat and consequent expansion. Its novelty consists in the ring carried on one of the parts of the valve and adapted to yield and conform to its seat, having its joint protected by a yielding cover or shield.

Claim.—In balance puppet valves the ring or annulus M, carried on one of the parts *a* or *b* of the valve, and adapted to yield to conform to its seat and having its joint *m* protected by a yielding cover or shield N, substantially in the manner and for the purpose herein set forth.

No. 50,444.—LEVI BROWN, Baltimore, Md.—*Guitar Banjo.*—October 17, 1865.—The object of this invention is to produce with a smaller drum than that used in the guitar a superior tone. In it the sheepskin or calfskin head, which slackens in damp weather, to the injury of the tone, is dispensed with, and a very thin wooden disk used in its stead, for a face-board. The hoop is perforated, and on the end opposite the face-board is a back-board, consisting of two very thin veneers glued together, the grains of which are at right angles to each other. The use of the back-board is to increase the sweetness of the tone.

Claim.—The construction of the head or drum of the instrument, as described and represented, and consisting of the perforated rim or hoop, imperforated sounding board and bulging back, constructed substantially as described.

No. 50,445.—JOHN T. BRUEN, New York, N. Y.—*Journal Box.*—October 17, 1865.—This invention consists in constructing the bearing surfaces of journal boxes with circumferential corrugations for the purpose of diminishing friction by decreasing the extent of rubbing surface. The points of contact on the journal, as it revolves on the convex parts of the corrugations, continually shift so as to prevent annular abrasion on the journal.

Claim.—Constructing the bearing surface of the journal box of a corrugated or indentated configuration, substantially as and for the purpose herein set forth.

No. 50,446.—SAMUEL BRYAN, Jefferson, Wis.—*Portable Fence.*—October 17, 1865.—This invention consists in uniting the panels of a fence by means of wedges and staples, or loops, whereby the said fence is put together and taken apart with great facility.

Claim.—The panels constructed and united in the manner shown and described.

No. 50,447.—CHARLES BURNHAM, Philadelphia, Penn.—*Flour Sifter.*—October 17, 1865.—This invention consists in an arrangement of plates or wings on radial arms projectiug from a shaft in such manner that the wings will stir the flour and cause it to pass through the semi-cylindrical sieve. In connection with one of the arms is a brush to aid the operation of sifting.

Claim.—First, arranging within a box having a semi-cylindrical sieve bottom a series of revolving tangential plates *h h*, a portion of the surface of each one of which is curved, substantially as described.

Second, the combination of a brush *k* with the revolving plates *h h*, which are so applied to radial arms that they serve as crushers and also stirrers, substantially as described.

Third, the combination of the revolving and stirring plates *h h* and a brush *k*, applied to a shaft *d*, which is allowed to have an upward yielding movement during the operation of sifting, substantially as described.

No. 50,448.—D. A. BOLAND, Pittsburg, Penn.—*Upsetting Press.*—October 17, 1865.—This press is of that class in which molten iron is compressed in a mould or former, by a plunger or shoving head piece, acted on by a cam. The invention consists in making those portions of the mould which in this sort of presses are necessarily movable, bear directly on the housing frame, intermediate pieces being dispensed with; also in shaping the movable parts of the mould in such a manner that any strain in the direction of the motion given to the molten iron tends to bind together said movable parts the more firmly as the pressure increases; also in making the head piece act by the force of gravity on the other movable parts, in order to close the mould as quickly as possible, and at one operation.

Claim.—First, in an upsetting press the head piece M, when shaped as a wedge bearing directly on the housing frame B″, in such a manner that if moved forward it will be brought down, as specified.

Second, the cam R, when used in combination with the head piece M, housing frame B″, shaft O, and pulley T, for the double purpose of holding the head piece M down, and to raise it alternately.

Third, the side pieces K K″, when having their outside edges formed as inclined planes, bearing directly on corresponding inclined planes, in the housing frame B″, and having projecting lugs *k k*, for the purpose specified.

Fourth, the block G, when having parallel notches, in combination with the frame F, having notches of corresponding shape and size.

Fifth, the T-shaped table Z, and the sliding head Z″, when used in combination with the press, as described, and for no other purpose than the one specified and claimed.

No. 50,449.—W. B. BURTNETT, New York, N. Y., and JAMES P. MCINTOSH, Highland Mills, N. Y.—*Device for Attaching Handles to Whitewash Brushes.*—October 17, 1865.—This invention consists in providing for the adjustment of the brush to the handle at any oblique angle, by a pivoted clamping strap, to which the handle may be attached in any suitable manner.

Claim.—First, the combination of a pivoted adjustable strap *b*, which is adapted for receiving the brush handle, with a brush stock, substantially as described.

Second, the combination of an adjustable strap *b*, having an adjustable handle applied to it, with a brush stock, substantially as described.

No. 50,450.—SAMUEL G. CHASE, Raymertown, N. Y.—*Machine for Putting up Fleeces of Wool.*—October 17, 1865.—This invention consists in constructing the receiver within which the fleeces of wool are placed during the operation of bundling, of upright bars so arranged in reference to each other that there shall be clear open spaces between them within which are adjusted the binding cords. The follower is provided with slots at its edges by means of which it moves upon the aforesaid upright bars, and holds them always in their proper vertical positions.

Claim.—A receiver or box constructed of vertical bars affixed to a platform, and so arranged in reference to each other as to form or leave clear open spaces between them, within which are adjusted the cords used in putting up fleeces of wool, constructed and arranged substantially in the manner as herein described, and for the purpose as set forth.

Also, in combination with said receiver or box, a follower F, provided with slots *a a a* at its edges, by means of which, in addition to its conjoint operation with the box aforesaid in compressing the fleece of wool, it also serves to hold the bars forming said box in proper vertical position during the act of compression, constructed and operating in the manner substantially and for the purpose as herein described.

No. 50,451.—JOHN CHILCOTT, Brooklyn, N. Y.—*Sewing Machine.*—October 17, 1865; antedated October 4, 1865.—This invention is designed for use in "closing" the uppers of shoes and gaiters, and for other work upon leather where it is desirable that the line of the seam shall be sunk below the surface of the material. By the means here used an excessive tension on the thread is not required, and the leather is not weakened as if a groove were cut in the usual manner.

Claim.—First, the attachment to the presser foot of a sewing machine of a furrowing piece F, which, without cutting, will produce by pressure in that surface of the leather or other material to be sewed which passes in contact with said foot, and immediately in front of the stitches being made, a furrow or continuous indentation for the reception of the exposed portions of the stitches on that surface, substantially as herein described.

Second, the attachment to the needle die, needle plate, or work plate of a sewing machine, of a furrowing piece G, which, without cutting, will produce by pressure in that surface of the leather or other material to be sewed which passes in contact with said die or plate, and immediately in advance of the stitches being made, a furrow or continuous indentation for the reception of the exposed portions of the stitches on that surface, substantially as herein described.

Third, the combination of the furrowing pieces F G, applied as described, to operate by pressure on opposite sides of the leather or other material to be sewed, substantially as and for the purpose herein specified.

Fourth, making the furrowing piece G, which is attached to the needle die or needle plate of the sewing machine, adjustable relatively to the said die or plate by a set screw, or its equivalent, substantially as and for the purpose herein specified.

No. 50,452.—CHARLES CHINNOCK, Brooklyn, N. Y.—*Automatic Dancer.*—October 17 1865; antedated October 4, 1865.—This invention consists in attaching a jointed figure to a supporting pillar by means of a bent lever having a spring to return it to its original position after the bent end of the lever has been depressed to raise the figure.

Claim.—The attachment of the figure to the pillar B by means of a bent lever C and an adjustable balancing spring *d*, substantially as herein specified.

No. 50,453.—DANIEL CHURCHILL and S. C. BREWER, Ionia, Ill.—*Cultivator.*—October 17, 1865.—In this invention the forward end of the beam is attached to a pendent slotted arm by means of a clevis, which is so constructed that a greater or less pitch can be given to the cultivator share. An evener is placed on the frame above the beams, and connected to the singletree by vertical pivoted rods.

Claim.—First, the combination and arrangement of the draught rods G, the bar F, clevis *a*, and slotted pendant H, as and for the purpose set forth.

Second, the combination of the plough beam E, clevis *a*, and slotted pendant H, when arranged to operate as shown and described.

No. 50,454.—ARNOLD B. CLARK, Delavan, Wis.—*Washing Machine.*—October 17, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The frame B, in which the shaft C and concave of rollers *d* are placed, when said frame is used in connection with eccentrics J, applied and arranged substantially as shown, for raising and lowering the rubber and concave, as set forth.

No. 50,455.—GILBERT H. CLEMENS, Cincinnati, Ohio.—*Saw-mill.*—October 17, 1865.—This invention consists in the application of a rotating knee to a head block, so constructed that it can be rotated when desired to present either side to the log. One of the lips of the said knee has a receding concave face in which are placed friction rollers to assist in turning over the log.

Claim.—First, the rotating shifting knee G, having lips I I′, and intervals J J′, in combination with the circular dovetail boss D on the base plate B.

Second, the construction of a saw-mill knee with a receding concave face L, having one or more friction rollers O″.

No. 50,456.—H. R. COBURN, Lowell, Mass.—*Odometer or Way Measurer.*—October 17, 1865.—This invention consists in actuating the clock work with which the index is connected by means of a cam on the side of the hub of the carriage wheel, and an intermediate sliding arm whose inner end is provided with a cam to operate a pawl and ratchet wheel, to the end that a progressive motion always in the same direction may be imparted to the index whether the wheel be turned forward or backward. The pawl-carrying lever is made capable of adjustment for the purpose of accelerating or retarding the motion of the index in relation to that of the carriage.

Claim.—Rendering the space passed over by the pawl-carrier lever O adjustable, substantially as set forth and for the purpose described.

No. 50,457.—L. O. COLVIN, Philadelphia, Penn.—*Breast Pump.*—October 17, 1865.—In this invention between the nipple tube and cup is a valve opening outward. The other valve, which is of India-rubber, is of convex form and fits the inside of the cup, being firmly held in position at its edge by a hard-rubber rim bearing against projections on the inside of the cup. A rod is attached to the centre of this valve, by depressing which part of the valve is drawn out sufficiently to produce suction and allow the milk to flow into the receptacle.

Claim.—The milk receptacle A, cup B, and nipple tube C, in combination with the valves D E, all constructed, arranged, and combined to operate in the manner substantially as and for the purpose herein set forth.

No. 50,458.—THOMAS COOPER, Cincinnati, Ohio.—*Rolling Car Axles.*—October 17, 1865.—This invention consists in arranging side by side two longitudinal eccentric rollers, both revolving the same way, having rests to retain the shaft to be rolled between them. The contour of the rollers is the reverse of what the finished shaft is designed to be. Each roller is composed of three sections, the central one being keyed tightly to the shaft; the two end sections are allowed to move laterally against yielding springs as the shaft becomes elongated by the process of rolling.

Claim.—First, the combination of the two eccentric rollers D D, and rests K K, arranged to operate substantially as and for the purposes set forth.

Second, the sliding or adjustable rollers E, placed on the same shafts *c* as the rollers D, and controlled by springs I, substantially as and for the purpose set forth.

No. 50,459.—WILLIAM B. CROSS, Sacramento City, Cal.—*Feed-water Heater.*—October 17, 1865.—This invention consists of a series of small pipes projecting from the interior of a chambered head in the water pipes, in combination with a supply and discharge pipe, in such a manner that by opening said supply and discharge pipe a current of hot water from the boiler is injected in each of the water pipes of the apparatus, and by the action of the water all the sediment which may have collected in the boiler is readily blown out, and the apparatus is cleaned in a short time and without interrupting the operation of the engine.

Claim.—The chambered head B with nozzles *f*, in combination with the tubes *b*, and box or case A, constructed and operating substantially as and for the purpose described.

No. 50,460.—JACOB DAVID, Brooklyn, N. Y.—*Music Stand.*—October 17, 1865.—This invention consists in constructing the several parts of a music stand so that they can be taken apart and made into a cane for convenience in transportation.

Claim.—A folding music stand constructed substantially as above shown.

No. 50,461.—WILLIAM H. DIBBLE, Bordentown, N. J.—*Dental Apparatus.*—October 17, 1865.—This invention consists of a tongue plate in which is a cup-shaped recess, protected

by a layer of gauze from coming in contact with the tongue, which recess is connected by a tube with an elastic suction bulb, by which the saliva is removed from the mouth. Attached to the instrument is a cheek holder, and a support for the upper jaw.

Claim.—First, the apparatus above shown for the use of dentists in filling and operating on the teeth, whereby the tongue and cheek are held off from the teeth, the mouth is kept open by giving artificial support to the upper jaw, and liquid is drawn from the mouth without interfering with the operations of the dentist, by means of a pump, substantially as shown.

Second, the combination of the basin G and tube U with the tongue holder I, constructed substantially as herein set forth.

Third, the combination of the tube A and basin G with a pump, substantially as shown.

Fourth, protecting the end of the tube from the mucous membrane, and protecting the interior of the basin from the tongue by the cage H, substantially as shown.

Fifth, the bow S for holding the cheek away from the teeth, substantially as shown.

No. 50,462.—HENRY DUNHAM, Jr., Abington, Mass.—*Sewed Shoe.*—October 17, 1865.—This invention consists of a sewed shoe, the vamp, or upper, and sole being united in a machine by stitches passing through the vamp and the inner surface of the sole; the said stitching being on the inside of a turned shoe; and it can by the same process be applied to a welted shoe, which is afterwards covered by another sole. In both cases the seam is entirely concealed when the article is finished.

Claim.—As a new article of manufacture, a sewed shoe, with the vamp, or upper, and sole united, by machine, by chain stitches passing through the vamp and the inner surface of the sole—not passing entirely through its bottom—the said stitching being on a turned shoe on the inside, and entirely concealed when the article is finished, and on a welted shoe being also concealed, being covered by another sole.

No. 50,463.—A. R. FENNER, Cold Brook, N. Y.—*Saw Sets.*—October 17, 1865.—This invention consists in so constructing the parts that the teeth will have a uniform set, whether the plate is of uniform thickness or not.

Claim.—The two handle bars A B, pivoted together, and provided with the two jaws *d e*, as shown, in connection with the screws E D, one or both, and gauge plate F, all constructed, arranged, and operating in the manner substantially as and for the purpose set forth.

No. 50,464.—J. V. GHORMLEY, Bellefontaine, Ohio.—*Washing Machine.*—October 17, 1865.—This invention consists of a slotted cylinder, partly contained in an outer case or box, in which water is held, and having within the cylinder a similar cylinder of smaller dimensions, so arranged that as the first or main cylinder is rotated, the inner cylinder rolls around on the inner face of the first, acting as a rubber and compresser.

Claim.—The combination of the slotted cylinders B and C, and hook *d*, constructed and arranged substantially as and for the purpose herein described.

No. 50,465.—S. V. GIFFORD, Hudson, N. Y.—*Sieve.*—October 17, 1865.—This invention is clearly set forth by the claim and engraving.

Claim.—First, the conical rollers M M, provided with the blades or cutters *a**, in connection with the sieve G, the rollers being arranged so as to operate with a rotary motion on an axis, and also to revolve upon the sieve, substantially as set forth.

Second, the combined vessel A, and scoop C, when used in connection with the pressure rollers, as and for the purpose specified.

Third, the attaching of the sieve G to the bottom of the vessel A, through the medium of a rim F, applied to the vessel, and having the wheel H attached to it, substantially as and for the purpose set forth.

Fourth, the combination of the conical pressure rollers M M, vessel A, scoop C, and sieve G′, all arranged substantially as and for the purpose specified.

No. 50,466.—SOLOMON GODFREY, Peoria, Illinois.—*Bolt for Flouring Mills.*—October 17, 1865.—This invention consists of a tube, which is crescent-shaped in its transverse section, and the concave side of which consists of wire gauze. This tube is placed in front of the bolt, the latter being of a corresponding size, and into the tube is directed a blast of air, which is forcibly ejected upon the bolt through the gauze, thereby cooling the flour and preventing the bolt from clogging.

Claim.—The tube A, constructed with a concave wire gauze front, arranged and operating substantially as described, in combination with the bolt B, for the purposes set forth.

No. 50,467.—A. W. HALL, New York, N. Y.—*Machine for Crushing Ore.*—October 17, 1865; antedated October 11, 1865.—This invention will be understood by reference to the claim.

Claim.—Enclosing the crushing wheels of a machine for crushing and pulverizing ore or other materials, by an air-tight cover, so combined with the pan in which the said wheels work as to form therewith an air-tight chamber, in which the crushed or pulverized material is subjected to the action of a blast or blasts of air, substantially as herein specified.

No. 50,468.—J. A. HARRIS, Pontiac, Mich.—*Dentist's Mallet.*—October 17, 1865.—This invention is composed of a guard, which is held in the hand, and has attached to it a standard to which the mallet is hinged; connected to the mallet by a lever and cord is a trigger, so that by pressing on the trigger with the finger the mallet can be operated with precision.

Claim.—A dentist's mallet, composed of a guard A, hinged spring mallet D, and trigger H, connecting with the mallet by a cat-gut and lever, or any other equivalent means, substantially as and for the purpose set forth.

No. 50,469.—WM. HART, Sand Lake, N. Y.—*Sewing Machine*—October 17, 1865.—This invention consists in placing a bushing loosely about the shaft of a hook or needle so as to relieve the shaft and preserve it from wear, the bushing being so made that any decrease in he diameter of the shaft, and any enlargement of the bushing can be compensated by compressing the bushing.

Claim.—The application to the shafts or spindles of the lower needles or hooks of sewing machines of adjustable bushes, constructed and applied substantially as described and shown.

No. 50,470.—GEO. F. HAWKES, New York, N. Y.—*Fountain Pen.*—October 17, 1865.—This invention consists of an apparatus for use in pens of the shape commonly employed, through which the ink from the fountain is permitted to flow to the pen upon withdrawing a part of the implement, which serves as a stopper when the pen is not in use, and as a feeder when the pen is in use.

Claim.—First, the arrangement of a ring or other equivalent support on a stopper of a fountain pen to keep it central in its seat, thereby doing away with one cause of leakage, and increasing the security of the hold of the pen.

Second, the slot or slots employed for keeping the feeder in a line of motion, and used at the same time as the openings for the ink to pass out when the feeder is drawn out, substantially as described.

Third, a stopper operating in conjunction with a feeder, substantially as described.

No. 50,471.—DAVID HAWKINS, Derby, Conn.—*Spring for Furniture.*—October 17, 1865.—This invention consists in first forming a hoop from flat tempered steel wire, half twisting the same; and when thus half twisted the two ends are joined together, and when riveted the hoop is twisted into a form resembling a figure eight, the two ends being fixed so that the centre is raised, which completes the spring.

Claim.—A spring for upholstering or other purposes, constructed in the manner substantially as herein described.

No. 50,472.—S. C. HAWKINS, Patchogue, N. Y.—*Railway Car.*—October 17, 1865.—This invention consists in combining with the ordinary wheels of a car truck two or more supplementary wheels, united in the centre of the truck, that have an oblique bearing upon the rails, thereby preventing the flanges of the vertical wheels from pressing against the rails.

Claim.—In combination with the ordinary wheels of a railway car, the use of one or more sets or series of supplementary or oblique wheels, hung and turning in suitable swinging arms or frames, arranged with regard to the rails, and operating substantially in the manner described and for the purposes specified.

No. 50,473.—ANSEL HECHT, New York, N. Y.—*Box-plaiting Attachment for Sewing Machines.*—October 17, 1865.—By this invention the strip of cloth is conducted through proper flat guides to the plaiting devices; one of these guides pushes the cloth under the open spring of a presser foot, and over and under another sliding plaiter, the jaw holding one fold until the next fold is made in the opposite direction. The feeding dog then moves upward, and holds firmly the formed plait until the lower plaiter recedes, and the mouth plaiter moves upward or parallel with the upward motion of the feeder; the feed dog now draws in the plait, and the needle descends and forms the stitch. In each single plait are two stitches, and in each double fold or box plait four stitches.

Claim.—First, the upper and lower plaiter Q and U, operating substantially as described and for the purposes herein set forth.

Second, the mouth plaiter S, acting in connection with the lower and upper plaiter Q and U, as and for the purpose described.

Third, the lever f', operating as described, in combination with the upper and lower plaiters.

Fourth, the metallic springs Z Z, Fig. 3, or plates *m m*, Fig. 1, expressly for the uses and purposes set forth.

Fifth, the guide *g*, in connection with the mouth plaiter S, as and for the purposes described.

Sixth, the cog wheels D E F G, arranged and proportioned to operate with the lower, upper, and mouth plaiters Q U S, so that every double fold may obtain four stitches, substantially as described and set forth herein.

No. 50,474.—JAMES HENDERSON, Brooklyn, N. Y.—*Manufacture of Iron and Steel.*—October 17, 1865.—This invention consists in combining with iron and other materials charged in the usual manner at the tunnel head of the blast furnace, a given quantity of manganese or its equivalent.

Claim.—Mixing manganese, or the equivalent thereof, with the ore or ores, charged in the blast furnace for smelting, in combination with, and to produce, crude molten iron to be directly converted by the pneumatic process, substantially as and for the purpose specified.

No. 50,475.—H. J. HEWITT, Brooklyn, N Y.—*Ruling and Printing Machine.*—October 17, 1865.—This invention consists of a cylinder and other devices whereby the operations of printing and ruling paper may be performed at one and the same operation.

Claim.—The combination of cylinder C, conductor D, movable bed F, and pen plate H, or their several equivalents, constructed and operating together, substantially as and for the purposes set forth.

No. 50,476.—J. E. HIGBY, West Meriden, Conn.—*Instrument for Lifting Jars and Cans.*—October 17, 1865.—This invention consists in making a pair of tongs from suitable wire for clasping the necks of jars or cans in placing them in or removing them from hot water, in the process of preserving fruits, &c.

Claim.—As a new improved article of manufacture, a jar lifter, the handles or arms *e*, clasps *o*, or their equivalents, adapted to lifting cans or jars, substantially as described.

No. 50,477.—THOMAS HILL, St. Louis, Mo.—*Journal Box.*—October 17, 1865.—The object of this invention is to adjust and secure in the proper place wedge-shaped boxes of journals. Its novelty consists in a wedge-shaped box and screw in combination with a connecting rod and strap.

Claim.—The wedge-shaped box *a*, with one or more screws *d*, in combination with the connecting rod A and strap B, constructed and operating substantially as and for the purpose set forth.

No. 50,478.—C. JILLSON, Worcester, Mass.—*Harrow.*—October 17, 1865.—In this invention a harrow-bearing frame is attached to the axletree by articulating arms. In the rear end of this frame is placed the harrow, which is caused to oscillate in a direction at right angles to the track of the machine. The harrow being supported in vertical slots, can adjust itself to the inequalities of the ground.

Claim.—First, the combination of a harrow, arranged for reciprocating action transversely to the path of the machine of a harrow frame, connected, as described, with the axle of the driving wheels, by means of swinging arms, substantially as set forth.

Second, the combination with the harrow I, and harrow frame D, of the arm *o*, and stop or plate *e*, substantially as set forth.

No. 50,479.—E. E. LAUMONT, New York, N. Y.—*Awning.*—October 17, 1865.—This invention consists of an awning the outer end of which is secured to two hinged rods or to a frame, its inner end being fastened to a roller, to which a revolving motion is imparted by a crank on the inside of the window; said crank being made to connect with the rollers by an upright shaft and suitable bevel gear, so that by the action of the hinged rod the awning is drawn out and held in the desired position as soon as the same is unrolled from the roller, and by turning the crank it can be taken in, partially or wholly, at any moment, without raising the window.

Claim.—The roller *a*, operated by the crank *c*, in combination with the hinged frame *b*, and awning A, constructed and operating substantially as and for the purpose set forth.

No. 50,480.—C. E. LOMBARD, Springfield, Mass.—*Bit Stock.*—October 17, 1865.—This invention consists in attaching to a bit stock a pivoted catch, which is placed in a slot in the shaft of the brace, and flush with its outer surface; underneath which is a spiral spring, and over the shaft is a loose sleeve with an inclined slot working on a pin in the shaft, so that when the sleeve is turned down the pivoted catch takes hold of the notch in the shank of the bit, and when the sleeve is turned up the spring forces the catch out of contact with the notch, and the bit is free.

Claim.—The combination of the piece B, collar D, pin *d*, and spring C, with a bit stock and bit, when arranged in the manner and for the purpose herein set forth.

No. 50,481.—HOSEA LOW, Waukon, Iowa.—*Machine for Cutting Sheet Metal.*—October 17, 1865.—This invention consists in the use of two pairs of shears or jaws, each pair being hinged together by means of arms projecting laterally at right angles from each blade. The two pairs are placed side by side upon a suitable support, and are adjustable to or from each other at different angles upon a table or platform. To the lower part of the said table is hinged a treadle, which, by means of connecting rods and levers attached to the front arms of the upper blades of each pair, operates the same. On the inside of each pair of shears is an adjustable gauge against which the sheet to be cut is placed.

Claim.—First, the use of two pairs of shears, adjustable for any desired bevel and length, in combination with a treadle or other equivalent device, constructed and operating substantially as and for the purpose set forth.

Second, the use of the adjustable and reversible gauges F, in combination with the shears C, all constructed and operating substantially as and for the purpose described.

Third, the application of crooks *f* to the cutting edges of the shears, substantially as and for the purpose specified.

No. 50,482.—DAVID LYMAN, Middlefield, Conn.—*Clothes Wringer.*—October 17, 1865.—This invention consists in applying a shaft and spring to a wringing machine that is operated by a chain and gear wheels.

Claim.—The spring F, slot *a*, and stop *a'*, adapted to control the position of the shaft *e* and wheel E, when arranged relatively to the chain D, and rolls B and C, of a clothes wringer, substantially as and for the purpose herein set forth.

No. 50,483.—HUGH MCDONALD, Pittsburg, Penn.—*Fixing for Puddling Furnace.*—October 17, 1865.—This invention consists of a preparation for lining the interiors of puddling furnaces consisting of any kind of iron ore susceptible of pulverization, the particles of which when mixed with water will cohere and form a pasty mass, which does not need to be melted or even heated before its application to the furnace.

Claim.—The use of iron ore in its raw or unmelted state, previously ground fine, and mixed with a thick paste or dough, with water, as a fixing for puddling or boiling furnaces, and used in the manner substantially as hereinbefore described.

No. 50,484.—GEORGE MILLER, Washington, D. C.—*Carpenter's Gauge.*—October 17, 1865.—This invention consists in so arranging the parts of a panel gauge that it can be used for a try square, bevel, train, and gauge.

Claim.—The arrangement of the stock A, plates B B, removable slide C, and the central and shifting points *g g'*, in the stock and slide respectively, and with or without the point E and pencil *p*, substantially as described and represented.

No. 50,485.—GEORGE MUNGER, New Haven, Conn.—*Substitute for Lining Paper.*—October 17, 1865; antedated October 4, 1865.—In this invention sheets of veneering, as cut from the log, are placed in a sewing machine and stitched with parallel rows of seams running lengthwise of the sheet and transversely of the grain. It is intended for carpet linings, roofing, and other purposes where paper is used. The seams prevent the cracking and breaking of the veneer.

Claim.—As new and useful the within described substitute for lining paper, &c., as a new article of manufacture.

No. 50,486.—GEORGE MUNGER, New Haven, Conn.—*Fruit Basket.*—October 17, 1865; antedated October 13, 1865.—In this invention a large piece of veneer is stitched and bent in such a way that by folding it it forms a box and cover complete without the use of nails or glue.

Claim.—The herein described fruit basket, when constructed from one piece of veneer, stitched as described, either with or without a cover, as specified.

No. 50,487.—J. L. NEWTON, Boston, Mass.—*Boot and Shoe.*—October 17, 1865.—This invention consists in making the lacing strips or supports of untanned hide or skin.

Claim.—A boot or shoe, the lacing strips or supports of which are made of untanned hide or skin, as and for the purpose above set forth.

No. 50,488.—FRANCIS ODELL, New York, N. Y.—*Base of Piano-forte Stools.*—October 17, 1865.—This invention consists in making the base of piano-forte stools of metal in imitation of the mahogany and rosewood styles of patterns for legs or parts of piano-fortes.

Claim.—The new and useful manufacture of metal bases for piano-forte stools, made in imitation of and substitution for ornamental wood bases, ordinarily used for such purposes.

No. 50,489.—BRIGHAM PAYNE, South Coventry, Conn.—*Machine for Necking Cartridge Cases.*—October 17, 1865.—In this invention the cartridge to be swaged is fed under the swaging die by a proper feeding apparatus, and the swaging die forced down upon the case by a cam in the usual manner. When the die begins to withdraw, a stationary shaft, projecting from within the die and secured to the frame-work of the machine by a pin passing through a slot in the shaft supporting the die, resists the upward movement of the shell and forces it out of the die as it advances upward.

Claim.—The combination of the fixed or stationary shaft with the hollow arbor or swaging die, operating together substantially in the manner and for the purpose specified.

No. 50,490.—A. M. PENISTON, Avon, Ill.—*Weather Strip.*—October 17, 1865.—This invention consists of a flat strip to be applied to a door sill in such manner that it will lie flat

thereupon when the door is open, and be elevated and supported in its proper position by a tongue on its lower side when the door is shut.

Claim.—The construction, arrangement. and combination of the flat strip *b e*, sill strip G *e*, and enlarged recesses I *f*, all in the manner herein described and shown, and for the purpose set forth.

No. 50,491.—ERASMUS A. POND, Rutland, Vt.—*Apparatus for Carburetting Air.*—October 17, 1865.—This invention consists in forcing air into a tube, the lower end of which is submerged in benzine or other hydro-carbon fluid, and is also contracted in size so that the air, before entering the fluid, may be compressed in order that after entering the fluid it may expand, absorb the vapors thereof, and become combustible for the production of light and heat.

Claim.—First, the method herein described of charging atmospheric air with the vapor of hydro-carbon fluids by discharging the air through contracted openings into the mass of fluids, substantially as herein shown and described.

Second, the method herein described of charging atmospheric air with the vapor of hydro-carbon fluids, by dividing the column of air and discharging the same into the liquid in small streams, substantially as hereinbefore described and shown.

No. 50,492.—E. A. POND and M. S. RICHARDSON, Rutland, Vt.—*Inserting Glass in Umbrellas, &c.*—October 17, 1865.—In this invention the rigid frame that embraces the glass grasps the flexible material also, which material is subsequently trimmed from the face of the glass.

Claim.—First, the method of inserting glass or other transparent plate in flexible or limber fabrics or materials, substantially as and for the purposes set forth.

Second, as a new article of manufacture umbrellas provided with windows made of glass or other transparent plate, substantially as herein shown and set forth.

No. 50,493.—AUGUSTUS PRENATT, Elizabeth, N. J.—*Manufacture of Lampblack.*—October 17, 1865.—This invention consists in surrounding the furnace in which the fuel is burnt with a water jacket, which is supplied with water by means of a pipe, another pipe carrying off the water after it becomes heated. The fuel is supplied to the pan by means of a pipe which is connected with a reservoir containing oil.

Claim.—First, in flues for making lampblack, surrounding them by a water space, substantially as and for the purpose above described.

Second, in the manufacture of lampblack supplying the fuel to the flues from beneath, substantially as above described.

No. 50,494.—JOSEPH RAYNER, Piqua, Ohio.—*Lard Press.*—October 17, 1865.—This invention consists in forming the bottom plate of the press of a convex shape in connection with the use of a follower having its under side, between which and the convex bottom the lard scraps are compressed, of a concave shape corresponding to the convexity of the bottom, whereby great strength is imparted to both with the use of but a small amount of metal, and the lard scraps are also prevented from spreading as the follower descends and presses upon them.

Claim.—The arrangement of the outer and inner perforated cylinder and the convex bottom with the tubular shanked concave faced follower, operated as described.

No. 50,495.—GEORGE H. REID, Boston, Mass.—*Preparation and Manufacture of Dyes and Colors.*—October 17, 1865.—This invention has for its object the production of dyes in all colors, which will tinge both silk and wool, and this object is effected by the use of such vegetable and mineral coloring matters as have affinities for one of these fabrics, and do not at the same time act to neutralize those which have affinities for the other fabrics. The choice of coloring matters is still further limited to such as will produce shades not affected by changes of temperature.

Claim.—First, as a new manufacture or composition of matter, and as a new article of commerce, liquid dyes, produced from vegetable or mineral coloring matters, so mixed and prepared with the proper proportion or quantity of highly concentrated mordant that the same will endure both heat and cold, and may be kept for any period without undergoing change, and will produce a complete and effectual dye upon either silk or woollen cloth or fabric at one application.

Second, the process of making liquid dyes in all colors, by the mixture and preparation of coloring matters and highly concentrated mordants, either of vegetable or mineral origin or both, in such manner that the dyes will endure both heat and cold, and may be kept for any period without undergoing change, and will produce a complete and effectual dye upon either silk or woollen cloth or fabric at one application, in the manner substantially as above set forth.

No. 50,496.—JAMES M. REES, Scott, Ohio.—*Governor for Steam Engines.*—October 17, 1865.—The object of this invention is to equalize the force applied to a piston in a steam cylinder, notwithstanding the variableness of pressure in the steam generator.

Claim.—The adjustable rod *d*, in combination with the lever E, arm *e*, valve *f*, and piston B, substantially as and for the purpose described.

No. 50,497.—GEORGE A. REIS, Belvidere, N. J.—*Bolt Cutter.*—October 17, 1865.—In this invention one of the cutters is attached to and made continuous with one of the handles, and to this latter is pivoted a short curved section which, at its under end, carries the other cutter, but at the inner end is pivoted to a sliding link, a bar lying within a groove cut diagonally but not entirely across the surface of the short section. The other end of the link is pivoted to the disk-like extremity of the sectional handle, which, through the medium of the link, imparts motion to the short section by reason of being eccentrically pivoted to the continuous handle. A cap piece is fitted over these several articulations to retain them in position.

Claim.—Connecting the link *m* to the bolt cutter, as before described, with the grooves in the ends of E and the handle A, respectively, and substantially as figured in Figs. 3 and 4.

No. 50,498.—CHARLES ROBINSON, Springfield, Mass.—*Apparatus for Preserving and Exhibiting Photographic Pictures.*—October 17, 1865.—This invention consists of two guide plates located over and near the cylinders. The whole band is wound around the cylinders, and by means of the guide plates is brought as closely to the glass as desired for convenience in the exhibition of the picture mounted thereon. The band is also kept parallel with the top of the case for a similar reason.

Claim.—The guide plates D D, in combination with the mounting band C and winding cylinder B B, substantially as and for the purpose herein specified.

No. 50,499.—CARL SCHULTZ and THOMAS WARKER, New York, N. Y.—*Bathing Apparatus.*—October 17, 1865; antedated October 4, 1865.—This invention consists in combination with a bathing tub, of a fountain containing carbonic acid, water, or other gaseous liquid, in such a manner that the water in the tub can be mingled with the gaseous liquid and a medicinal bath obtained. From the fountain to the bottom of the tub leads a small tube, provided at the part within the tub with a series of minute holes, through which the gaseous liquid from the fountain escapes into the water in the tub, thus permeating the whole mass equally.

Claim.—First, the combination with a bathing tub of a fountain containing carbonic acid, water, or other gaseous liquid, substantially as and for the purpose set forth.

Second, the use of a small pipe D, with little holes, in combination with the tub A and fountain B, applied and operating substantially as and for the purpose described.

Third, the perforated false bottom E, in combination with the tub A, fountain B, and pipe C, constructed and operating substantially as and for the purpose specified.

No. 50,500.—CARL SCHULTZ and THOMAS WARKER, New York, N. Y.—*Gaseous Liquid Injector.*—October 17, 1865; antedated October 4, 1865.—This invention has for its object the heating of carbonic acid, water, or other liquid gas, that it may be used for medical purposes. This object is effected by interposing between the vessel containing the gaseous liquid and the discharge spout, a coil of pipe in a vessel filled with hot water in such a manner that the gaseous liquid while passing through the coil is heated to the desired temperature, and all loss of gas avoided. An apparatus is also made use of by means of which alternate jets of gas and gaseous liquid are produced.

Claim.—Combining with a fountain containing carbonic acid, water, or other gaseous liquid, a heater composed of a coil of pipe situated in a vessel fitted with hot water, or constructed in any other suitable manner, substantially as herein set forth, so that a hot injection of such gaseous liquid can be obtained without allowing the escape of gas.

Also, the application of a bulb *g*, in combination with the coil *c*, vessel *d*, fountain A, and tip *f*, constructed and operating substantially as and for the purpose described.

No. 50,501.—JEROME B. SECOR, Chicago, Ill.—*Hand Stamp and Canceller.*—October 17, 1865.—This invention consists of a series of wheels in a metallic stamp head marked on their peripheries with such characters as may be necessary. These wheels are susceptible by means of thumb-screws of rotation in the stamp head so as to produce new combinations of characters. They may also be locked and unlocked from the exterior of the stamp.

Claim.—Combining with a stamp head a series of wheels that can be turned, and locked when turned, by a corresponding series of thumb nuts and levers, arranged to operate substantially in the manner and for the purpose herein described and represented.

No. 50,502.—JOHN SEIPEL, Washington, D. C., assignor to CASSIUS M. CLAY, Kentucky.—*Rifling Ordnance.*—October 17, 1865.—In this invention the rifling is formed of a series or cluster of narrow grooves and ridges alternating with broad grooves. The ridges are cut away at the chamber and also in the space occupied by the projectile. The projectile, formed with broad ridges corresponding with the broad grooves of the gun, is loaded by being turned when driven home, so that its projecting ridges shall be behind the clustered ridges of the bore of the gun.

Claim.—The combination of the narrow spiral ridges A and the intervening broad entering spaces B, the space back of the ridges forming a chamber for the ball, which is introduced in the manner described.

No. 50,503.—JOSEPH SMITH, Providence, R. I.—*Fire-kindling Composition.*—October 17 1865.—This invention consists of a compound made by dipping lamp or candle wick in naphtha, and afterwards saturating it with melted paraffine, tallow, beeswax, &c.

Claim.—A kindling compound made of the ingredients herein described and mixed together, substantially as set forth.

No. 50,504.—DAVID M SMYTH, New York, N. Y.—*Wood and Paper Box.*—October 17, 1865.—This invention consists in forming a circular box by bending a strip of wood or other material around a stationary cylindrical block through the agency of a roller travelling around the block by the action of a treadle. The roller also holds the lapping ends while the glue hardens. These forming devices are set at the end of arms on the edge of a revolving table for the purpose of forming the boxes successively, in order that time may be allowed for the glue between the lapping ends to harden by the time the box comes around to the place of its removal from the block.

Claim.—First, a stationary block or form, in combination with a roller that travels around such block, and bends the strip of material to form the box or lid, and holds the ends together where they lap, as specified.

Second, in combination with the block and roller as aforesaid, the treadle and weight, acting in the manner specified.

Third, the revolving table or arms carrying a series of forming blocks and rollers, actuated as and for the purposes specified.

No. 50,505.—ALBERT A. STANNARD, Ithaca, N. Y.—*Horse Collar.*—October 17, 1865.—This invention consists in laying the two edges of the leather, composing the rim of the collar, and the two edges of the leather composing the cushion or pad of the collar, one above the other, and then sewing them together, so that the stitching shall show in one of the recesses only of the collar.

Claim.—Laying the two edges of the leather composing the rim of the collar, and the two edges of the leather composing the cushion or pad of the collar, one above the other, and the sewing of them together so that the stitching shall show in one of the recesses only of the collar, in the manner and for the purposes described.

No. 50,506.—COLLINS STEVENS, Boston, Mass.—*Hot-air Engine.*—October 17, 1865.—This invention consists in the combination of three working cylinders with two furnaces, and one air pump, in such a manner that the cold air is introduced and confined between two or more movable pistons, and is heated between such pistons without being materially increased or diminished in bulk, while between them, and so that the pressure of the air while being heated shall operate equally in opposite directions and thus counterbalance the pistons so as to produce no effect whlie being heated. After being thus heated the air is allowed to pass to the opposite side of such pistons, where, by its expansive force, it imparts a rotary motion to the main shaft of the engine to which the pistons of the three cylinders are connected.

Claim.—First, introducing cold air between two or more connected pistons or surfaces, so arranged that while between such surfaces it shall not materially increase in bulk, and heating it after it has been introduced and while confined between such pistons or surfaces; and after the air so confined has been heated, using the expansive force thereof, for producing power by means and devices substantially as described.

Second, arranging the said pistons or surfaces, so that the pressure of the heated confined air in opposite directions shall be balanced and neutralized, substantially as described.

Third, the combination of the three cylinders and pistons A A′, C C′, D D′, and H H′, or their equivalents, substantially as described for the purposes set forth.

Fourth, the arrangement of the furnaces between the cylinders A A′, and C C′, or D D′, snbstantially as described, for heating the air.

Fifth, using soft unction substances, substantially as described, for lubricating the pistons.

Sixth, the arrangement of the valves or stop cocks as *d d′ d″*, for the purpose of cutting off one of the furnaces so that fuel may be supplied without stopping the engine, substantially as described.

Seventh, the arrangement of valves operating substantially as the valves *t t′ t″*, in *u* and *u′*, respectively, for the purpose of opening and closing the pipes between said cylinders, and allowing the exit and escape of the hot air, substantially as described.

Eighth, the arrangement of valves, as *s s′*, for preventing a partial vacuum when the air is not sufficiently heated to fill the working cylinder or its equivalent.

No. 50,507.—JAMES STILLMAN, Springfield, Mass.—*Breech-loading Fire-arm.*—October 17, 1865.—In this invention a hinged breech block, swinging backward from the rear of the barrel, is held or locked in position by a pivoted brace piece swinging behind and under the same, which brace piece when drawn backward until disengaged from the breech block allows the latter to open automatically by a spring action; at the same time that the thumb piece of the brace by coming in contact with a shoulder on the hammer sets it at half-cock.

Claim.—First, the combination of a solid recoil block E, which turns back exposing the

rear end of the bore for the insertion of the cartridge, with a separate locking piece or brace G, having its bearing O constructed as described and swinging on a separate centre from any other part of the gun, these parts being combined with and operated by the springs *g* and *e*, and thumb pieces *a* and W, in the manner and for the purpose herein set forth.

Second, arranging the brace G so as to half-cock the gun by means of its thumb piece, and with the same motion which allows the breech piece E to swing back and expose the rear end of the bore, substantially as described.

No. 50,508.—B. F. ST. JOHN and HENRY HORST, Shelbyville, Ind.—*Brick and Tile Machine.*—October 17, 1865.—This invention consists in the employment of an endless conveying and discharging platform, and a pressure roller arranged in connection with a hopper. For tiles of a cylindrical form there is a ring or band placed on the roller, said ring being of semi-cylindrical shape; this ring may be considered as a core. For ordinary bricks the common mould is used, and it passes under the roller, then deprived of its cylindrical ring.

Claim.—The endless conveying and discharging platform C, in connection with the holding or retaining roller D, the hopper F, and the pressure roller G, both with and without the ring or band K, substantially as and for the purpose herein set forth.

No. 50,509.—CORNELIUS ST. JOHN, Boston, Mass.—*Lamp Shade.*—October 17, 1865.—This invention consists of a plaited lamp shade and support, and spreader resting on springs around the lamp chimney, so that by pressing down the shade it is expanded, and *vice versa*.

Claim.—The improved folding lamp shade, made substantially as described, viz., of the folding body A, and the supporting annulus B, and tube C, and tube *c*, and its projections, or the equivalents thereof, applied to one end of such body in manner and so as not only to support the body on a lamp chimney, but to enable it to be expanded while thereon, substantially as set forth.

Also, in combination with the folding lamp shade so made, the expanded D, constructed substantially as and to be used as specified.

No. 50,510.—H. D. STOVER, New York, N. Y.—*Stand for Lathes.*—October 17, 1865.—This invention consists in the arrangement within the stands of lathes and other machines of a revolving stand for tools, so arranged as to be readily reached through a door.

Claim.—The combination of the hollow frame A with the revolving tool holder G, and the door J, the whole being constructed and arranged substantially as and for the purpose set forth.

No. 50,511.—ALLEN S. SWEET, Jr., Detroit, Mich.—*Expanding Metals by Steam Heat.*—October 17, 1865.—In this invention, for expanding tires for locomotive and other wheels, a semi-cylindrical tube of copper is bent around the tire and a continuous current of steam is passed through it, entering at one end and passing from it at the other. In order to expand the hub for the purpose of inserting the axle, steam is passed through a spiral channel within the hub, the channel having been formed at the time, and during the process of casting. In connection with the latter method, and for heating curved or hollow wheels, an annular or double-flanged plate is clamped against the face of the wheel, forming thus a double cavity through which to pass the steam.

Claim.—The formation of temporary steam channels, cavities, or chambers on the surface of such part or parts of machines to be heated and expanded, by attaching thereon belts, casings, or plates C1 C2, or other equivalent devices, when constructed, applied, and operated substantially in the manner and for the purposes herein specified.

No. 50,512.—THOMAS SYMONDS, Portland, Maine.—*Ice Creeper.*—October 17, 1865.—This invention consists of a sliding frame or plate with spurs, and a rim attached to the heel of a boot or shoe; said rim having a groove where the frame or plate moves. When the creeper is to be used the sliding frame is taken out and placed so as to present the spurs outside.

Claim.—The combination of the sliding frame A, the grooves *e e*, the slides *c c*, the button B, and the bar D, all as and for the purpose described.

No. 5 0,513.—ALFRED TAYLOR, Philadelphia, Penn.—*Manufacture of Collars, Cuffs, &c.*—October 17, 1865.—This invention consists of a collar made of linen, muslin, or other textile fabric, coated with a composition of silicate of soda and zinc white.

Claim.—A collar, cuff, or shirt bosom, consisting of textile fabric, coated with silicate of soda, containing oxide of zinc or its equivalent, as set forth.

No. 50,514.—TEMPLE TEBBETTS, New York, N. Y.—*Mode of Removing Paper Collars, &c., from the Embossing Press.*—October 17, 1865.—This invention consists in the construction and operation of devices to be attached to embossing presses, for removing articles which it is dangerous to attempt to remove by hand. This removing arrangement consists principally of an automatic lever and plunger, which causes the article to drop through an opening into a receptacle beneath.

Claim.—First, the travelling projecting lever *a*, with its appendages, in combination with the spring stud *i*, or its equivalent, operating substantially as described for the purpose specified.

Second, the combination of the catch *d*, and knuckle *e*, with the spring stud *i*, for the purpose as herein set forth.

Third, the guardboard *h*, in combination with a projecting lever *a*, or its equivalent, and in combination with this the opening in the table *c*, for the purpose as herein fully described.

No. 50,515.—WILLIAM A. THOMPSON, Brooklyn, N Y.—*Burner for Gas Stoves.*—October 17, 1865.—In this invention, around the perforated plate on top of a chamber in which the gas jet is placed, is an annular space which admits a thin current of air to the point of combustion: this space is formed by a top or cap, contracted at its upper part to a less diameter than the perforated plate.

Claim.—In etnas or burners for gas stoves, the annular and shielded opening E, arranged relatively to the other parts, substantially in the manner and for the purposes herein set forth.

No. 50,516.—HENRY TOTTEN, Leesville, Ohio.—*Horse Hay-fork.*—October 17, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, the tines A, constructed substantially as described, so that the parts *a*, *b*, and *c*, shall lie in planes of different angles.

Second, the construction and arrangement of the bar B, standard C, quadrant brace D D′, and swivel bar F, substantially as described.

Third, the construction and arrangement of the quadrant brace D D′, swivel bar F, hook G, and dog H, operating substantially as described.

No. 50,517.—H. H. TRENOR, New York, N. Y.—*Car Brake.*—October 17, 1865.—This invention consists in operating brakes by means of an eccentric, which is arranged so as to directly and instantaneously transmit to the brakes any motion transmitted to it. Each wheel may be provided with one brake or with two diametrically opposite, and the brakes of each wheel, or of all the wheels on one truck, or of all the wheels on the entire train, may be operated by one eccentric.

Claim.—Operating the brakes of railroad carriages, by means of eccentrics, substantially as herein described, whereby simultaneous action of the brakes may be effected on the wheels on either or all of the cars of a train, said brakes acting so that each wheel shall receive pressure on opposite sides of its periphery.

No. 50,518.—H. H. TRENOR, New York, N. Y.—*Running Gear of Railroad Cars.*—October 17, 1865.—This invention consists in a method of adapting all the axles or trucks of a train of cars to the direction taken by the leading axle or truck. This is accomplished by combining with axles or trucks of vehicles of whatever description, when pivoted so as to have a centre of motion, a system of coupling whereby the movement of the one is necessarily transmitted to the others.

Claim.—In combination with the movable trucks of railroad cars, of otherwise ordinary or suitable construction, the directing connecting links, substantially as and for the purpose herein set forth.

Also, the method of coupling the cars or vehicles of a train of two or more cars or vehicles, by means of connecting links attacked to the pivots or king-bolts of the truck, substantially as herein shown and set forth.

No. 50,519.—JOHN VAN, Cincinnati, Ohio.—*Cook Stove.*—October 17, 1865.—At the rear corners of the stove are applied locking strips which fit by means of flanges over the edges of the stove, by means of lips into pockets in the bottom and top plates, and are screwed firmly together at overlapping points. At each of the front corners is a single piece with lips in the pockets at top and bottom. The use of rods with nuts and screws to fasten the stove together is obviated. The door swings in a detachable dovetailed hinge socket at the upper pivot, fitting into lugs cast on the side plate of the stove.

Claim.—First, the mode of fastening the exterior plates of a stove by means of the pockets F, lips G G′, locking strip H, and screws I, or devices, substantially equivalent.

Second, the detachable dovetailed hinge socket K, for the upper pivot of a stove door.

No. 50,520.—WM. VAN ANDEN, Poughkeepsie, N. Y.—*Mode of Lubricating Journals.*—October 17, 1865.—This invention consists of an oil chamber having a stem projecting from the bottom of the chamber to near the top, cast with and forming a part of the upper half of a journal box. The stem has a hole through it for the purpose of admitting oil from the chamber to the journal of a machine which gets its motion by means of wheels running on the ground.

Claim.—First, an oil chamber and hollow stem, forming a part of the upper half of a journal box when used with a ground-wheel machine, in a manner and for the purpose substantially as described.

Second, in combination with the devices mentioned in first claim, the cap or stopper B, used in a manner for the purpose substantially as described.

Third, the shank drop valve in combination with the chamber and hollow stem, for the purpose substantially as described.

No. 50,521.—RICHARD VAN VELTHOVEN and JOSEPH H. HAZZARD, Philadelphia, Penn. —*Photographic Album.*—October 17, 1865.—This invention consists of flexible strips of parchment or other material, one of which is pasted to the inner edge of each leaf, and, passing across the inner edge of the adjacent leaf, is pasted to the opposite side of the next leaf, thus forming a binding arrangement.

Claim.—The strip C C′ of any suitable material formed substantially as herein described, and combined with the leaves of an album or other book, substantially as and for the purposes set forth.

No. 50,522.—A. P. VINING, Scranton, Penn.—*Ventilation for Railroad Cars.*—October 17, 1865.—This invention consists of a double valve composed of two obliquely connected wings pivoted centrally in a casing placed over an aperture in a railroad car, so that it shall be opened by the current of air when the car is in motion, in a position opposite to the direction of the current.

Claim.—The double valve D composed of two obliquely connected wings *g g′*, pivoted centrally at *f*, and employed in combination with an external casing A, of the construction specified.

No. 50,523.—C. R. M. WALL, Brooklyn, N. Y.—*Method of Decolorizing Malt Liquors.*—October 17, 1865.—This invention consists in exposing the surface of the wort while in a state of ebullition to the action of sunlight or artificial light, such as the calcium light.

Claim.—Exposing wort or other liquid to be decolorized while in a state of ebullition to the rays of the sun or of a suitable artificial light, substantially as set forth.

No. 50,524.—ROBERT WALLACE, DEGRASSE FOWLER and HERBERT E. FOWLER, Wallingford, Conn.—*Corset Clasp.*—October 17, 1865.—In this invention the metallic clasp busk is corrugated at such parts as require greater strength and rigidity than other parts which are desired to be yielding.

Claim.—First, the method herein described of making corset clasps, by longitudinally corrugating the steel at both ends, in the manner and for the purpose set forth.

Second, as a new article of manufacture, corset clasps or steels in which a longitudinal central bead is raised at the end of the steels, or such parts thereof which require greater strength and rigidity, substantially as herein shown and described.

No. 50,525.—C. W. WARNER and H. N. TRACY, Williston, Vt.—*Horse Rake.*—October 17, 1865.—This invention consists in a means employed for operating the rake so that it may discharge its load, whereby several advantages are obtained.

Claim.—The combination of the socket A having two sets of shoulders *a a a′ a′*, the sliding bar F, and the pawl H, all arranged to operate as described.

Also, the attaching of the pawl H to the strap B, in the manner shown, or in any equivalent way, to render said pawl adjustable.

Also, the screw *b*, or its equivalent, in the bar E, for the purpose of adjusting the latter, substantially as set forth.

No. 50,526.—CHRISTOPHER WESENER, Cincinnati, Ohio.—*Apparatus for Making Vinegar.*—October 17, 1865.—This invention consists in filling a cask with closely curled shavings of beech or other non-resinous wood, and partly filling the cask with cider. The upper half of each head is pierced with a suitable number of holes for the admission of air, and the cask having been turned on its side, the shavings by capillary attraction induce a slow and continuous circulation of the cider into the upper half of the cask, where it is exposed over the surface of the shavings to the atmosphere and undergoes acetous fermentation.

Claim.—The manner of constructing a self-acting acidifier and its principle of action by capillary attraction.

No. 50,527.—STEPHEN D. WHITE, Centralia, Ill.—*Slide Valve.*—October 17, 1865.—This invention consists of a valve made in two sections, one of which is made to work steam tight upon the valve seat, and the other against the steam chest cover. Inside the upper section is a follower which is held in position by screws, and rests upon the packing rings which form the steam-tight joints between the two sections of the valve. In the lower section of the valve studs are placed outside of the steam ports, which studs are surrounded by spiral springs for the purpose of pressing the respective parts of the valve against their seats.

Claim.—The arrangement within the steam chest A of the parts C and D of the valve, the follower E, springs *h*, packing rings *e*, operating as described.

No. 50,528.—GEORGE L. WITSIL, Philadelphia, Penn.—*Rolling Pin.*—October 17, 1865.—This invention consists in constructing the cylindrical portion of a rolling pin hollow and dividing such cylinder longitudinally, in conjunction with suitable fastenings for securing the removable section of the cylinder in place and admitting of its ready removal to obtain access to the interior of the chamber and the articles contained therein.

Claim.—A rolling pin which is constructed hollow and of two longitudinal semi-cylindrical sections, in combination with a fastening for securing these sections together, substantially as described.

No. 50,529.—JEROME BACON, Medina, Wis., assignor to himself and JOHN F. SEIBERLING, Doylestown, Ohio.—*Harvester Rake.*—October 17, 1865.—This invention consists in employing a rake attached to the rear of the machine for the purpose of removing the gravel, after it has been discharged from the platform, from the track of the team in its next turn.

Claim.—First, the use of a rake on the rear of a harvesting machine for removing the gravel after it has fallen from the platform of the machine upon the ground, for the purpose of clearing a track for the next turn of the team, substantially as described.

Second, the employment of the rake D, in combination with the tilting platform M, substantially as set forth.

Third, the combination of the rake D, the supporting rod A, the elbow lever F, and the hand lever G, substantially as described.

No. 50,530.—LYMAN C. BLISS, assignor to LYMAN C. BLISS and JOHN GRIFFITH, Richmond, Ind.—*Bench Plane.*—October 17, 1865.—This invention consists in constructing a plane so as to have a jointing bit on one side of the plane, and on the other a bit and groove for cutting splints for blinds, and a parting strip or fence between the two bits on the face of the plane.

Claim.—As an article of manufacture a bench plane constructed as described, with a jointing bit and a draw-cut splint-cutting bit on the opposite sides of the dividing strip on the face of the plane.

No. 50,531.—JOHN O. COUCH, assignor to the METROPOLITAN WASHING MACHINE COMPANY, Middlefield, Conn.—*Wringing Machine.*—October 17, 1865.—This invention consists in the peculiar method of coupling the gearing with the shaft, so that the upper roller may yield to greater pressure.

Claim.—The double-ended crown coupling E *e*, in combination with the lobed or toothed part D *d* on the shaft *c*, and the corresponding part D′ *d* on the shaft *c′*, and with the yielding roll C of a clothes-wringing machine, all arranged and adapted to operate substantially in the manner and for the purposes herein set forth.

No. 50,532.—G. K. DEARBORN, assignor to himself and C. M. BROMWICH, South Boston, Mass.—*Blind Fastener.*—October 17, 1865.—In this invention an opening is made in the bottom of the blind frame in which a latch is pivoted in a vertical position, the lower end projecting down far enough to take into a catch arranged in a horizontal position on the window sill, and from another catch projecting from the wall to hold the blind open. The latch is held in position by a spring. A hand lever is pivoted to the blind in a horizontal position on the inside with one end bearing against the upper end of the latch, by which the same is operated.

Claim.—The combination of the catch plate *n* and lever *r*, or their equivalents, arranged together and operating substantially in the manner and for the purpose specified.

No. 50,533.—HALVOR HALVORSON, North Cambridge, Mass., assignor to himself and WILLIAM TRACY EUSTIS, Boston, Mass., assignors to themselves and L. L. CUSHING, Jr., Cambridge, Mass.—*Apparatus for Treating Ores.*—October 17, 1865.—This invention consists of a revolving pan upon the bottom of which rest cones which are provided with shovels. These cones are hollow and perforated, and revolve upon hollow perforated shafts. When the machine is in operation steam is admitted through the hollow perforated shafts into the cones, and escapes through the perforations thereon and into the ore.

Claim.—The machine constructed and susceptible of being operated substantially as and for the purposes set forth.

No. 50,534.—HALVOR HALVORSON, North Cambridge, Mass., assignor to himself and WILLIAM TRACY EUSTIS, Boston, Mass., assignors to themselves and LEVI L. CUSHING, Jr., Cambridge, Mass.—*Amalgamator.*—October 17, 1865.—This invention consists of a tube which revolves upon a shaft. The inside of the said tube is lined with copper, and the tube is provided with a zinc cylinder, or rubber, which presses against the side of the tube. The copper lining is amalgamated with mercury, and salts of mercury in solution are placed in the tube. When the tube is put in motion sulphuric acid gas is introduced through a glass tube.

Claim.—First, the ring *h*, for the purposes herein recited.

Second, the elastic roller *i*, either alone or in combination with the dasher *j*, as described.

Third, the recess *k*, for the purpose herein set forth.

Fourth, in a rotating tub or pan, the amalgamated copper lining, for the purpose set forth.

Fifth, the arrangement of the shield *a*, in relation to the shaft and the gearing, as described.

Sixth, the arrangement of the apertures *l* and *m* and valve *n*, with the hollow shaft, as described.

No. 50,535.—J .H. HISCOCK, Turner, Me., assignor to himself, E. A. NICHOLS, and GRANVILLE C. SHAW, Washington, D. C.—*Explosive Shell.*—October 17, 1865.—This shell is an elongated sectional one, the cylindrical portion of which is composed of a series of interlocking blocks or segments all of one form and pattern. These are held firmly together by a base and conoidical front piece secured to a central tube which contains the explosive charge.

Claim.—The use of the interlocking, symmetrical and uniform-shaped blocks or segments A in the outer wall of a shell for ordnance.

No. 50,536.—T. J. POWERS, assignor to J. P. FITCH, E. E. CHAMBERLIN, and I. R. VAN VECHTEN, New York, N. Y.—*Metallic Cartridge.*—October 17, 1865.—This invention consists of a shot cartridge formed in two parts; the shot are placed in a sheet-metal case so formed as to fold over the shot at top, forming a rounded top, the whole resembling a Minie bullet in shape; and the bullet so formed is inserted in a metallic case containing the powder, and primed as usual in the flange.

Claim.—A shot cartridge formed of the powder case, Fig. 1, and the shot case, Fig. 3, the same being constructed, charged, and combined, substantially as described.

No. 50,537.—ELNATHAN SAMPSON, Lansingburg, N. Y., assignor to ALFRED CLARKE HITCHCOCK, Green Island, N. Y.—*Platform Scales.*—October 17, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, the arrangement and combination of the horizontal, parallel levers D, with the bell crank or T-shaped lever E, in the manner and for the purposes substantially as herein described and set forth.

Second, the employment of the bell crank or T-shaped levers E, constructed and combined with the centre connecting rod G and G′, in the manner and for the purposes substantially as herein described and set forth.

Third, the employment of the centre connecting rods G and G′, in combination with the bell crank lever H, in the manner and for the purposes substantially as herein described and set forth.

No. 50,538.—WM. WESTLAKE, assignor to himself, J. E. CROSS, and J. F. DANE, Chicago, Ill.—*Machinery for Manufacturing Lanterns.*—October 17, 1865.—In this invention a block is made in the shape in which the guard of the lantern is desired to be formed. A metallic collar is placed at the top of the block, to which are attached the wires forming the guard; these wires are bent down over the block and are kept in place by means of spacers which retain all the wires at an equal distance apart.

Claim.—First, the block A A, when made in the form and for the purpose as described.

Second, the spacer *d d*, when made as described.

Third, the combination of the spacer *d d* and the block A A, in the manner described.

No. 50,539.—D. A. WILSON, assignor to himself and C. P. HIGBEE, Cambridge, Vt.—*Clenching and Nipping Tool.*—October 17, 1865.—This invention is designed as an improvement upon the patent granted to E. Warren, and consists in hinging the upper jaw so that it may be adjustable, and adapt itself to horse hoofs of different sizes.

Claim.—The improvement in a clinching and nipping tool, herein described, the same consisting in the use of the adjustable arm or projection *f*, for the purpose specified.

No. 50,540.—ELNATHAN SAMPSON, Lansingburg, N. Y., assignor to himself and ALFRED CLARKE HITCHCOCK, Green Island, N. Y.—*Machine for Weighing Grain.*—October 17, 1865.—This invention does not admit of a brief description.

Claim.—First, the arrangement and combination of the means herein described and set forth, by which grain may be weighed in large quantities continuously, and without other aid than that which will supply grain to the machine, start its operation, and continue the same, in the manner substantially as herein described and set forth.

Second, the employment of the circular or rolling weight M, in combination with the vibrating scale beam L, in the manner and for the purpose substantially as herein described and set forth.

Third, the employment of the oblique levers Q, in combination with the horizontal trip levers S, and with the circular or rolling weight M, in the manner and for the purposes substantially as herein described and set forth.

Fourth, the employment and combination of the trip levers S, with the scale beam L, and with the oblique levers Q, in the manner and for the purposes substantially as herein described and set forth.

Fifth, the employment of the gates or valves T, arranged and combined so as to check and stop the supply of grain to the weighing receiver or hopper G, from the tube V, in the manner and for the purposes substantially as herein described and set forth.

Sixth, the arrangement of the gate or valve H, or its equivalent, at or near the bottom of said weighing receiver or hopper G, in combination with the horizontal bar I, each operating in the manner and by the means and for the purposes substantially as herein described and set forth.

Seventh, the employment of the means herein described and set forth, for opening and closing the gates or valves T, in the manner substantially as herein described and set forth.

Eighth, the employment of a scale beam, having thereon arranged and combined the inclined plane *m*, and guides to direct the movement of the circular weight M, in the manner substantially as herein described and set forth.

No. 50,541.—VICTOR DUTERNE, Paris, France.—*Stuffing Box for Steam Engines.*—October 17, 1865.—The object of this invention is to pack piston rods of steam engines in a

more advantageous manner than by means heretofore used. Its novelty consists in the combination of a piston rod, stuffing box, conical sleeves, spring, and cap.

Claim.—The combination with the piston rod *b*, and stuffing box *f*, of the conical sleeves *a* and *c*, spring *d*, piece *e*, and cap *g*, substantially in the manner and for the purposes specified.

No. 50,542.—CHARLES E. MARSHALL, Digby, Nova Scotia.—*Anchor.*—October 17, 1865; antedated March 6, 1865.—In this invention the anchor has straight flukes which turn in the arc of a circle, so that they may take the ground on either side of the shank; the flukes turn on a pivot passing through the crown of the anchor, each fluke having a separate socket, and is furnished with barbs or spurs to "cant" the fluke, and to increase the holding power of the anchor.

Claim.—First, the combination of the shoulders *s s*, the sockets C C, and the perforated crown, as and for the purposes described.

Second, the combination of the spurs D D, with the straight vibrating flukes E E, as and for the purposes specified.

No. 50,543.—AUGUSTE MASSON and PIERRE H. CARY, Paris, France.—*Pen Holder.*—October 17, 1865.—This invention consists of a holder having a tube attached, combined with an exterior sliding ring or tube and an inner split tube so that the pen may be disengaged from the holder by a movement of the exterior ring or tube.

Claim.—The handle A, with tube C, combined with an exterior sliding ring or tube and an inner split tube, so that the pen may be disengaged from the holder by the movement of the sliding ring or tube on the tube C, substantially as described.

No. 50,544.—W. H. SMITH, London, England.—*Photographic Device.*—October 17, 1865.—This invention consists in preparing wood, glass, canvas, silk, ivory, and other substances for the reception of photographic pictures, by coating them with a solution variously composed according to the material to be coated, some of the ingredients employed in the manufacture of the various solutions being velata, gutta-percha, benzole, gelatine, water, chloride of calcium, and nitrate of silver.

Claim.—Preparing wood, glass, silk, ivory, and other substances for the reception of photographic pictures or impressions, substantially as described.

No. 50,545.—J. H. THOMAS and P. P. MAST, Springfield, Ohio.—*Grain Drill*—October 17, 1865.—This invention consists in an arrangement of devices for changing the size and shape of the openings in the seed slide through which the grain is fed, in order that the machine may be adapted to sow various kinds of grain.

Claim.—First, a seed slide or hopper bottom, provided with rectangular holes or openings for the passage of the grain, when said openings are of such a form that by a longitudinal movement of the slide containing the openings, or of the part which covers or closes the said openings, they shall be both widened and lengthened.

Second, the seed slide B, provided with the holes D, constructed and operating substantially as set forth.

No. 50,546.—ALONZO C. ARNOLD, Norwalk, Conn.—*Window Blind Fastening.*—October 24, 1865.—This invention consists of a plate fitted to be screwed upon a window sill and provided with two vertical supporting ears and a fastening pin. An angular pivoted bracket is supported by a pin passing through the said ears, and has a hole in its lower arm to be passed over the aforesaid fastening pin, in order that the other arm may stand perpendicularly close to the face of the sash. The purpose of the invention is to prevent the opening of blinds from the outside, and in order to render it effective the lower sash must be closed.

Claim.—The plate and attachments A, the angular-shaped bracket D, pin C, catch G, all in combination, for the purpose described, when depending on the lower sash being closed to make them effective, substantially as set forth.

No. 50,547.—M. L. BABB, Cape Elizabeth, Me.—*Rowlock.*—October 24, 1865.—The spindle of the rowlock enters through the gunwale of the boat, and at the lower end of the pin there is an enlargement; this being slotted, acts as a spring to retain the pin, which also, by pressing the slots together, can be readily withdrawn.

Claim.—The slotted and bulbous-headed spindle *c d*, in combination with the cylinder *b*.

No. 50,548.—JOSEPH BAGOT, New York, N. Y.—*Apparatus for Generating Gas.*—October 24, 1865.—This invention consists in obtaining the power requisite to drive the exhausters used in connection with gas generating apparatus, from the waste heat of the retort furnaces. This is effected by making all the gaseous products of combustion and heated air pass through and drive a wheel with oblique arms arranged in a manner similar to the sails of a wind mill.

Claim.—Obtaining the necessary motive-power to drive the exhausters of gas-generating apparatus from the escaping waste heat of the retort furnaces, substantially as herein described.

No. 50,549.—E. L. BARRETT, Springfield, Ohio.—*Envelope.*—October 24, 1865.—This envelope is provided with folds or gussets on the sides, corners and ends by which it can be expanded more or less, and made to suit the thickness of any package.

Claim.—The herein described expansion envelope, when constructed as specified, for the purpose set forth, being a new article of manufacture.

No. 50,550.—J. S. BEALS, Alabama Centre, N. Y.—*Sheep Rack.*—October 24, 1865.—The sides of this rack consist of vertical rotating standards which prevent the wool from wearing off the animals' necks. The bottom of the rack is provided with a longitudinal raised ledge and feed boards, which may be turned outward to a vertical position and thus render the rack inaccessible to the sheep until it is swept out.

Claim.—The feed board D D, connected to the sides of the rack so as to turn thereon, in combination with the boards E E attached to the feed board D D, by hinges or joints, substantially as and for the purpose set forth.

Also, the revolving standards B, arranged and applied to the rack, substantially as and for the purpose specified.

No. 50,551.—SILAS BENNETT, Newcastle, Penn.—*Apparatus for Utilizing Heat from a Furnace.*—October 24, 1865.—In this invention air tubes are inserted in the heating chamber and immediately connected with the distributing pipes, so that from the cold-air ducts the several rooms of the house may be easily supplied. Short tubes may be fitted in the pipes to admit air to increase the draught in them. The heat from the furnace may be conducted to other and upper apartments for cooking purposes if desired.

Claim.—First, the vertical air tubes H, located in the air-heating chamber of the furnace and used to assist the draught of heated air into the distributing tubes I I′, &c., which lead from the furnace to the place where the heated air is to be utilized.

Second, so inserting the air tubes into the air-heating chamber, in connection with and immediately beneath the distributing pipes above them, that the apartments of the house may be supplied directly and separately with air from the cold-air duct, substantially as described and represented.

Third, the additional air tubes W, for the introduction of exterior air into the circulation, as described and represented.

Fourth, the arrangement, as described and represented, for conducting the heated air from the furnace to appliances or apparatus for generating steam for culinary or drying operations, baking, &c., whether or not the same be previously or subsequently used for warming apartments.

No. 50,552.—JACOB BOWERS, Connellsville, Penn.—*Coke Oven.*—October 24, 1865.—This invention consists in the application of a movable bottom to the oven, which is pivoted in such a way to the sides of the oven that it may be tilted up at an angle of about 45° in order to discharge the coke through a chute or opening in the front wall of the oven below the level of the floor, so that when the movable bottom is fixed in a horizontal position the communication between the interior of the oven and the discharge opening chute is closed.

Claim.—Placing the opening or doorway for discharging the contents of the oven below the level of the bottom of the oven in combination with the moving bottom, so constructed and arranged as to make a passage from the interior of the oven to the doorway when the bottom is tilted, and to close the communication when the bottom is shut down, substantially as and for the purposes herein set forth.

No. 50,553.—IRA S. and C. N. BROWN, Westerly, R. I.—*Saw.*—October 24, 1865.—The object of this invention is to provide for saw teeth that are removable a locking device, whereby the tooth can be securely fastened in place to the saw, and when desired taken from the saw-plate without removing the locking device. It also consists in forming the teeth with grooves on their edge, in which tongues on the saw-plate fit, and are firmly held in position by a sliding bolt, held in a hole in the saw-plate to receive it, and, entering in a corresponding hole in the tooth, it is operated by means of a tumbler that may be revolved for the purpose of locking and unlocking, together with a spring that keeps the bolt in place.

Claim.—First, in combination with a saw-plate and removable tooth a locking device, adapted to lock or fasten the tooth after being placed in position, and arranged to admit of the removal of the tooth without necessitating the removal of the locking device from the tooth or plate, in whichever it is situated, all substantially as herein described.

Second, the bolt *a*, tumbler B, and spring catch *c*, or their equivalents, in combination with a removable saw tooth and a saw-plate, substantially as and for the purpose herein set forth.

No. 50,554.—J. D. BROWNE, Cincinnati, Ohio.—*Broom Head.*—October 24, 1865.—This invention consists of a clamp formed in two parts, hinged at the lower portion; the socket for containing the handle in one part has a screw thread formed on it, and a socket on the other part fits over it, the handle being put through both; the handle is then turned or screwed into the socket and held securely by the screw thread in the said socket.

Claim.—The mode of attaching the handle, and also securely fastening the clamp, as herein substantially set forth.

No. 50,555.—S. W. BURCAW, Allentown, Penn.—*Focusing Plate-holder.*—October 24, 1865.—This invention consists in the use of regulating screws in combination with or without springs, and with the frame holding the ground glass or focusing plate of a photographic instrument, in such a manner that by means of said screws the ground glass can be readily adjusted and brought into the proper focus without much loss of time, and with great accuracy. It consists also in the application of protecting plates, in combination with the regulating screws and with the frame holding the ground glass, in such a manner that the operation of adjusting the ground glass can be effected without springs simply by turning said regulating screws, and the screws are securely held in place and not allowed to shift their position spontaneously.

Claim.—First, the adjusting screws *b*, in combination with the frames A B, constructed and operating substantially as and for the purpose set forth.

Second, the springs or screws, or either of them, with or without plates, when used by means of an attachment to adjust the holder without moving the plate in the holder.

No. 50,556.—WILLIAM BURROWS, New York, N. Y.—*Hand Stamp and Embossing Press.*—October 24, 1865.—This invention consists in the attachment of an ink fountain and inking ribbon to the printing stamp in such manner that the ribbon used to produce the impression is properly inked at will; also in constructing in the bed a recess so arranged in relation to the embossing and printing stamp as to allow the printing stamp, which swings horizontally, a limited distance to make an impression on any surface beneath the bed, as that of a book or detached sheet, which is too large to pass under the printing head.

Claim.—First, the arrangement of a stationary guide H for an embossing stamp, and of a horizontally swinging printing stamp, in connection with one standard and bed plate, substantially as herein described.

Second, the opening C in the bed plate A, arranged in relation with the swinging printing head D, for the purpose and in the manner substantially as herein set forth.

Third, the ink fountain applied directly to the printing head of a hand stamp, substantially as herein described.

No. 50,557.—GEORGE E. BURT, Harvard, Mass.—*Horse Rake.*—October 24, 1865.—This horse rake is so constructed that it may easily be operated by the foot when the team is in motion, and having been raised will, automatically, return to a position to rake as soon as it shall have passed over the windrow. The teeth and arms are so constructed that one half the number of arms may be dispensed with without preventing the rake teeth from passing over obstructions.

Claim.—First, the combination of the elevator P with the crank *r* and pitman Q, constructed and operating substantially as described, for the purposes set forth.

Second, the combination of the arms O O′ with the bar G, constructed and operating substantially as described.

Third, the combination of the tooth E with the block *d*, and the pin *i* and the arm D, for the purposes set forth.

Fourth, the combination of the cylinder W, the bolt *r*, and the arm D, for the purposes described.

No. 50,558.—JAMES CALKINS and J. FRASER, Buffalo, N. Y.—*Well Packing.*—October 24, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, a seed bag E, closing the whole aperture of the well, and provided with a means for attaching and detaching a lowering and raising rod or its equivalent, substantially for the purpose herein described.

Second, the conical skeleton-formed guide G, in combination with the rod A and bag E, constructed and operating substantially as and for the purposes set forth.

Third, elevating the cone G and screw-connecting pin *f* so far above the top of the bag as to allow the accumulation of sediment without detriment to said connections, substantially as set forth.

Fourth, the application to untubed wells of a movable seed bag placed between the oil-bearing series of rocks and the veins of fresh water, for the purpose of excluding the latter from entering the fissures which contain the oil, substantially as and for the purposes herein set forth.

No. 50,559.—GEORGE G. CAMPBELL, Janesville, Wis.—*Car Coupling.*—October 24, 1865.—This invention consists in the application to the interior of a drawhead of springs so arranged as to hold the link horizontally, or in line with the bumper, so that it may enter the mouth of the opposite bumper-head and couple itself, and yet allow it, at the same time, sufficient play to accommodate itself to the swaying motion of the cars.

Claim.—The application to the link and pin self-coupler of the metallic springs *a* and *b*, substantially as and for the purpose set forth.

No. 50,560.—JOHN B. CAPEWELL, Gloucester, N. J.—*Wind Guard and Air Heater for Lamps.*—October 24, 1865.—This invention consists in surrounding the burner with a cap resting near the frame to act as a wind guard and air heater.

Claim.—The wind guard or air heater C, substantially as herein specified and described.

No. 50,561.—JOSEPH CARTISSER, New York, N. Y.—*Method of Preparing the Surface of Porcelain to Receive Designs, &c.*—October 24, 1865; antedated October 14, 1865.—This invention consists in treating the porcelain with dilute fluoric acid, the parts intended to remain unaltered being protected by a coating of varnish.

Claim.—Preparing pottery ware, such as porcelain and other fine ware, in the manner substantially as above described.

No. 50,562.—H. J. DAVISON, New York, N. Y.—*Welding Furnace and Steam Boiler.*—October 24, 1865.—This invention consists of a welding furnace arranged directly below and within the setting of a steam boiler.

Claim.—The arrangement of the two furnaces C and D, flue *b*, openings *g g*, and side flues *f*, substantially as and for the purpose herein specified.

No. 50,563.—M. B. DODGE, New York, N. Y.—*Quartz Crusher.*—October 24, 1865.—This invention consists in arranging a sieve between the crushing jaws and recrushing rollers, by which all the fine dust is separated before the remainder is passed between the rollers to be broken or crushed.

Claim.—The arrangement of the sieve D, between the crushing jaws B C, and crushing rollers F, and in combination therewith, substantially as and for the purpose set forth.

No. 50,564.—GEORGE DOUGLASS, Luzerne, Penn.—*Railroad Switch.*—October 24, 1865.—The object of this invention is to so construct a switch that the rails can be raised by means of a rod or lever, to which is attached a locking device. By turning this rod, ledges placed beneath the rails, and attached to the rod, raise the rails, and the switch rod is then put in operation. When the rails are placed in proper line, the rod is turned, and the locking device prevents the displacement of the rails.

Claim.—The chairs C C, constructed with transverse grooves *a*, and recesses *d*, substantially as shown, for the purpose of forming bearings for the rod D, and forming guards or stops at one side of the switch rails, as set forth.

Also, the rod D, provided with projections *c*, having ledges *d* on them, two or more, and arranged relatively with the chairs and switch rails, to operate substantially as and for the purposes specified.

Also, the combination of the lever E, and rod F, with the rod D, provided with the projections *c c*, having ledges *d* on them, and the chairs C C, constructed as described, all for the purpose set forth.

No. 50,565.—WM. A. DRYDEN and JAMES H. MONTGOMERY, Monmouth, Ill.—*Machine for Millstone Dressing.*—October 24, 1865.—This invention consists in arranging a carriage on an adjustable frame with a rack, so that by the turning of a single shaft, the pick will be operated and fed along to its work.

Claim.—The carriage E, provided with a vertically sliding frame I, to which an adjustable pick Q is attached, and also provided with gearing to engage with a rack F, on the frame or box B, and with a crank pulley, or its equivalent, to operate the frame I, all arranged in such a manner that by the turning of a single shaft G, in the carriage, the pick will be operated and fed along to its work, substantially as described.

Also, the giving of a positive motion to the pick through the medium of the crank pulley J, and slide *g*, when combined with the adjustable carriage, substantially as described.

Also, the adjustable frame or box B, placed on the base A, and operated through the medium of the screw C, or its equivalent, when said parts are used in connection with the carriage E, having the pick Q attached, and all arranged to operate substantially in the manner and for the purpose set forth.

No. 50,566.—S. R. DUMMER, New York, N. Y.—*Hinge.*—October 24, 1865.—This invention consists in the arrangement of a guide between the pivoted point of the lever and the point where the friction of the notched disk has effect upon the lever, so as to give greater protection to the pivot of the lever.

Claim.—The guide *y*, supporting the latch lever *r*, between its pivoted point and the locking point in the disk *m*, substantially as described and represented.

No. 50,567.—RUFUS DUNHAM, Portland, Maine.—*Lantern.*—October 24, 1865.—This invention consists in the combination of a globe, hinged reservoir cap and handle.

Claim.—The combination of the movable shade B, the parts A and C, and the handle E, as and for the purposes described.

No. 50,568.—LAMMOT DUPONT, Wilmington, Del.—*Press for Pressing Gunpowder.*—October 24, 1865.—This invention consists of a press composed of a bottom piece, movable side pieces, and a follower, which is moved forward by means of a screw. The powder is placed in the spaces between plates, which are arranged in the box and adjusted by means of a gauge bar.

Claim.—The compressing of powder dust into cakes or slates, by pressure applied horizontally, substantially as and for the purpose herein described.

No. 50,569.—ALBERT E. ELMER, Springfield, Mass.—*Damper.*—October 24, 1865.—This damper is made of two plates separated a short distance from each other, a rod extending from the centre of one to that of the other. A ring of metal of less diameter than the plates is made to centre upon this rod, and when the damper is rotated, it will slide from one plate to the other. Openings are made in the plate, which are alternately closed and opened by the sliding of the inner plate from one outer plate to the other.

Claim.—An improved damper, as consisting of the two perforated plates A B and drop valve or plate C, made, arranged, and combined together, and with journals, substantially in manner and so as to operate as hereinbefore described.

No. 50,570.—PLEASANT FITZGEROL, Newport, Ky.—*Sugar Mill.*—October 24, 1865.—This invention consists in adjusting the three crushing rollers, by means of a single screw, so that at the same operation the rollers are simultaneously adjusted towards or from each other by the action of the screw upon springs attached to steps and rods.

Claim.—Adjusting the crushing rollers by means of a single screw operating on springs in such a manner that, through the medium of the rods and steps, they will all be adjusted toward or from each other at the same time, substantially as described.

No. 50,571.—HUOT FLEURY, New York, N. Y.—*Distilling Petroleum.*—October 24, 1865.—This invention consists in distilling petroleum at a low heat, the air being exhausted from the still and condenser during the operation. The condensed vapor is forced through the dilute sulphuric acid to purify it, and afterward through an alkaline solution to neutralize the acid.

Claim.—The new process of distilling and rectifying petroleum oil as above described, taken all together, and of which the apparatus is only a necessary part.

No. 50,572.—P. W. GATES, Chicago, Ill.—*Amalgamator.*—October 24, 1865.—This invention consists of a scroll attached to a disk forming a wheel which contains a winding passage, commencing at the circumference of the wheel and terminating at the centre. The scroll is provided with buckets, placed at suitable distances apart. The ore enters the winding passage at the circumference of the wheel, and is carried toward the centre, where it is discharged, the buckets being intended to keep the ore from rising to the surface of the fluid metal, while in the winding passage.

Claim.—First, carrying the ores of metals to be amalgamated into a bath of liquid metal, to a point below the axis of the submerging device, by means of buckets which are so arranged about a shaft or axis that they positively hold the ore upon the submerger until they have passed said axis a greater or less distance, and then cease to have any positive hold upon the ore, substantially as described.

Second, dividing both the ore and the amalgamating agent in the process of amalgamation by the means and upon the principle, substantially as herein described.

Third, the combination of buckets with a scroll conveyor or submerging machine, substantially in the manner and for the purpose described.

No. 50,573.—P. W. GATES and D. R. FRASER, Chicago, Ill.—*Quartz Crusher.*—October 24, 1865.—This invention consists in the employment in a quartz crusher of a double-acting oscillating crusher working on journals below its centre, and a ridge on its upper part to divide the quartz, so that it will feed into the crushing mill on each side of the crusher. The crusher is oscillated by means of a yoke on the journals of the crusher outside of the frame, and operated by a cam shaft and link.

Claim.—First, a double-acting oscillating crusher C, which has its journals arranged below the centre of a square, rectangular, or any other geometrical figure which would enclose its transverse section circumferentially, substantially as described.

Second, constructing a double-acting oscillating crusher C, which has its journals located as described, with a ridge *e* at its highest point for dividing the material to be crushed and ground in its passage into the machine, substantially as described.

Third, the arrangement, consisting of the yoke G, which takes hold of both ends of the shaft of the crusher outside the bearings of said shaft, and is worked by one crank, the double-acting crusher and double-concave hopper, substantially as and for the purpose described.

No. 50,574.—ALBERT GEMUNDER, New York, N. Y.—*Propelling Apparatus.*—October 24, 1865.—This propeller has oscillating movable floats, and consists of a system of levers, by which the vessels are controlled, the lever acting in combination with a reciprocating frame.

Claim.—First, a reciprocating frame, or its equivalent, constructed and operating substantially as described.

Second, the employment, in combination with the said reciprocating frame or its equivalent, of two or more paddles so arranged as that either may be used separately to drive backward or forward, substantially as set forth.

No. 50,575.—A. B. GLOVER, Yonkers, N. Y.—*Machinery in Spooling Thread.*—October 24, 1865.—In this machine the spool is placed upon a stationary (not traversing) revolving

spindle. The thread is carried by a traversing finger from left to right and from right to left, by a right and left hand screw, which is operated automatically by a clutch.

Claim.—First, in machines for spooling thread the lever O, constructed and operated substantially as above described, one arm of which carries one end of the main shaft B, and another is engaged at certain times by a latch N, as herein shown.

Second, the slide I constructed substantially as shown, in combination with a change plate L, substantially as above described.

Third, the combination of the cam *g* with the slide I, substantially as above described.

Fourth, the fingers *r r'*, in combination with the change plate L, substantially as above described, the fingers being pressed continually against the plate by a spring *s*, or other suitable device.

Fifth, the toothed wheel *h*, in combination with the plate K of the swinging frame, substantially as and for the purpose above described.

Sixth, the shaft G, with the cam *p*, in combination with the lever O and latch N, substantially as and for the purpose above described.

Seventh, actuating the brake O', and bringing it against the pulley of the spindle at the instant of the disengagement of the latch N from the lever O, substantially as and for the purpose above described.

No. 50,576.—EDWARD J. GRAHAM, Philadelphia, Penn.—*Rock Drill.*—October 24, 1865; antedated October 6, 1865.—This invention consists of a rock drill of tubular form, and has on its face sets of cutting edges so arranged that the edges of one set may strike the rock across the incision made by the edges of the adjacent set, so that a rapid penetration of the rock may be effected.

Claim.—The within-described tubular drill, having on its face sets of cutting edges, arranged substantially as and for the purpose described.

No. 50,577.—W. W. GRIER and R. H. BOYD, Hulton, Penn.—*Coal Machine for Mining.*—October 24, 1865.—This invention consists in an arrangement of mechanism for operating a series of bits or boring tools for mining coal, and in the method of mounting, adjusting, and operating the same.

Claim.—First, the screw shaft F, provided with the groove *t*, in combination with the gear wheel G, provided with the feather *c'*, arranged and operating in connection with the movable frame, as and for the purpose herein set forth.

Second, the drum T, mounted on shaft L and cord *r*, arranged to operate the movable frame, as shown and described.

Third, the wedge-shaped blocks *c'*, in combination with the stationary blocks *c*, arranged to operate substantially as shown, for the purpose of adjusting the frame E.

Fourth, the slotted standards R, in combination with the cam levers *s*, or their equivalents, for the purpose of holding the frame E, as shown and described.

Fifth, the arrangement of gearing, as shown, by which each series of three drills is operated independent of the others.

Sixth, attaching the bits to the detachable stem or mandrel *v*, as shown and described.

Seventh, supporting the bits by means of the guide bars P and U, arranged as shown and described.

Eighth, the swinging frame C, provided with the gear wheel D, arranged to operate in combination with the operating mechanism and the truck wheels *a*, for the purpose of moving the machine, as herein set forth.

No. 50,578.—ANDREW HAMILTON, Broad Brook, Conn., and JAMES DE GRAY, Brooklyn, N. Y.—*Powder for Polishing.*—October 24, 1865.—This invention consists in the use of powder obtained in the manufacture of mother-of-pearl articles, either alone or mixed with whiting.

Claim.—First, the preparation and use of pearl powder for polishing purposes, substantially as herein described.

Second, a mixture composed of pearl powder and whiting, either with or without other substances, substantially as herein described, for the purpose of polishing metals or other materials, or cleaning the teeth.

No. 50,579.—JOHN HARRIS, Marquette, Wis.—*Car Wheels.*—October 24, 1865.—This invention consists in forming a car wheel of two concentric parts, the inner part being fitted to the axle in the usual manner. The outer section has a rotary motion around the inner section, which is intended to relieve the great strain of both wheel and axle in rounding curves.

Claim.—A car wheel constructed of two parts B D, fitted one upon the other, and the inner parts keyed or otherwise secured firmly on the axle, substantially as and for the purpose set forth.

Also, constructing the inner part or hub B of the wheel with a flange *a*, and using in connection therewith a plate *c*, bolted to the hub with or without the packing interspersed between, substantially as and for the purpose specified.

No. 50,580.—JOTHAM W. HAUXHURST, New York, N. Y.—*Letter File.*—October 24, 1865.—The object of this invention is to arrange the parts so as to remove any one letter or paper without removing the others which may have been filed subsequently. It is accomplished by making the wire on which the papers are filed to open in the centre, by pressing a spring catch at one end.

Claim.—As an article of manufacture the combination of the case B, spring *n*, and curved wires C and D, with the point *e*, and cavity *s*, with the thumb-piece P, arranged in the manner and for the purpose set forth.

No. 50,581.—CHARLES F. HENIS, Cincinnati, Ohio.—*Steam Gauge.*—October 24, 1865.—This invention consists in the combination and arrangement of a guard with a float, screws, and nuts, for the purpose of effecting a vertical adjustment of the cage and float.

Claim.—First, the combination and arrangement of the cage or guard E with the float I, for the purpose set forth.

Second, the combination and arrangement of the screws D and K, and nuts M and N, for the vertical adjustment of the cage and float respectively.

No. 50,582.—GIBBONS G. HICKMAN, Downingtown, Penn.—*Safety Pocket.*—October 24, 1865.—This invention is explained by the claim and engraving.

Claim.—A safety pocket closed by a spring catch, said catch being secured by a screw, substantially as herein shown and described.

No. 50,583.—CHARLES D. HILLMAN, Louisville, Ky.—*Symmetrical Drawing Board.*—October 24, 1865.—This invention consists of two drawing boards joined together by means of hinges pivoted on thumb-screws, so that the two frames can be adjusted to form with each other any required angle, and may be firmly held at such angle by means of the thumb-screws. One of the frames is provided with a panel on which is placed a sheet of paper marked with lines representing differently colored squares; the other frame has elastic cords passing over its face, which represent squares, corresponding in size and color to those on the first frame. The second frame has no panel, but is open at the back for the reception of a drawing. If a sheet of transparent paper is placed on the first frame, a copy of the drawing in the second frame can be made on said transparent sheet.

Claim.—The above described symmetrical drawing board, substantially as and for the purpose described.

No. 50,584.—BIRDSILL HOLLY, Lockport, N. Y.—*Fire Tongs.*—October 24, 1865.—This invention consists in constructing fire tongs with a large perforated web connected with the pivot, and arranging the same between the jaws and handles.

Claim.—First, constructing fire tongs with their blades and other parts composed of the two flanges *b b'* connected together by the central perforated web *c*, substantially as and for the purposes set forth.

Second, the broad circular bearings *e e*, in combination with the skeleton blades A B, and handles A′ B′, substantially as and for the purposes described.

No. 50,585.—D. E. HOLMES, Halifax, Mass.—*Trace Fastening.*—October 24, 1865.—This invention consists of a right angular slotted shaft or stock, and a hook placed loosely upon and over the same, in combination with a spiral spring.

Claim.—The trace fastening herein described, the same consisting of the right angular slotted shaft or stock *c*, and hook *r*, placed loosely upon and over the same, the two being arranged and operating together, substantially in the manner and for the purposes specified.

Also, in combination with the above the use of the spiral or other suitable spring, operating as and for the purposes specified.

No. 50,586.—H. W. HORTON, Hamburg, Mich.—*Water-boiling Apparatus.*—October 24, 1865.—In the lower parts of the vessel is a heating chamber, into which fits a receptacle for coals, between the upper plate of which and the top of the chamber is a draught space. The products of combustion flow round the end of this plate and forward towards the front, and off through the escape pipe in the front. The vessel has a cover, a spout, and a handle.

Claim.—First, the chamber B when arranged in a boiling apparatus, substantially as and for the purpose specified.

Second, the fire-box or pan D in combination with the chamber B, and vessel A, substantially as described.

Third, the combination of the vessel A, chamber B, pipe C, fire-box or pan D, substantially as herein specified.

No. 50,587.—HORACE HOTCHKISS, Plainfield, N. J.—*Umbrella.*—October 24, 1865.—This invention consists in the employment of a stick of wood, or other elastic substance, covered with sheet metal, such as iron, brass, or zinc, in place of the ordinary metallic tube generally used for umbrella and parasol handles with metallic frames, in such a manner that the operation of bracing the metal tube can be dispensed with, and a stronger, lighter, and better handle is produced, at less cost, than the ordinary metallic handles.

Claim.—An umbrella or parasol handle of wood, or other elastic material, covered with metal, as described.

No. 50,588.—SAMUEL D. HOVEY, Chicago, Ill.—*Artificial Fuel.*—October 24, 1865.—This invention consists of a composition of one part of glue, and one hundred parts of coal dust.

Claim.—The production of artificial fuel out of any combustible substance which can be improved by aggregation, by combining the same with glue, substantially in the manner and in about the proportion set forth.

No. 50,589.—WILLIAM HOWARD, Middletown, Ohio.—*Scissors.*—October 24, 1865.—In this invention the pivot is headed on one side of the scissors, and on the other side it is extended and without a head. A U-shaped spring, with a hole at each end, embraces the two blades from between the handles, so that the pivot shall pass through it as well as through the blades. Thus the cutting edges are kept in proper cutting condition at the desired cutting points throughout their whole length.

Claim.—The application and use of the spring A, and loose rivet B, with the shear blades, arranged and operating in the manner substantially as described.

No. 50,590.—BENJAMIN J. C. HOWE, Syracuse, N. Y.—*Deep Well Pumps.*—October 24, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—Removing and replacing the cylinder or working chamber of a pump without taking up the tubing, substantially as described.

Also, the construction and arrangement of the hooks or projections *a a* with the groove B in the discharge pipe, substantially as described.

No. 50,591.—JOHN H. IRWIN, Chicago, Ill.—*Lantern.*—October 24, 1865.—This invention consists in hinging the lantern top to the frame, so that the same may be conveniently turned over for the removal or replacement of the glass globe.

Claim.—Securing a removable lantern top to the upper part of the guard, substantially as herein specified and described.

No. 50,592.—CHARLES JACKSON and J. G. PUSEY, Providence, R. I.—*Priming Metallic Cartridges.*—October 24, 1865.—In this invention the priming or fulminate is placed in the centre of a metallic disk having a conical opening from its rear or base side, and a tapering slot meeting the opening from its upper or forward side. A conical depression in the centre of the base of the cartridge shell enters into and nearly fills the conical hole in the metallic disk, leaving a narrow and funnel-shaped space for the fulminate.

Claim.—A cartridge composed of the case A, provided with the hollow conical point *a*, in combination with the disk B, provided with the recess *o*, and slot *c*, substantially as shown and described.

No. 50,593.—SILAS T. JACKSON, Sheboygan Falls, Wis.—*Self-Centring Chuck.*—October 24, 1865.—This chuck belongs to that class which are constructed with screws for the purpose of operating the jaws. It is provided with a double screw, the pitch of one being just half that of the other, to operate the jaws simultaneously in opposite directions so that they will approach or recede from the centre at equal speed, thereby forming a self-centring mechanism.

Claim.—In combination with the movable jaws of a chuck, a differential screw, operating substantially as described, so as to form a self-connecting chuck, as set forth.

No. 50,594.—CHARLES F. JAURIET, Aurora, Ill.—*Car Truck.*—October 24, 1865.—This invention consists in mounting the engine or tender upon a transverse beam, which is suspended by stirrups beneath springs that have bearings directly over and upon the journal boxes of the axles, so that the entire weight of the engine or tender shall be supported upon said journals, and the engine allowed freedom to oscillate laterally.

Claim.—First, suspending the swing beam E, from springs F F, by means of hangers H H, in combination with the straps G G′, and spring guides I I, all operating substantially as described, for the purpose of admitting lateral movement and transferring the weight upon the swing beam to the axles, as set forth.

Second, sustaining the swing beam E, by means of a pair of suspenders H, on each side of each spring, substantially as described.

No. 50,595.—JAMES JERVIS, Baltimore, Md.—*File-cutting Machine.*—October 24, 1865.—This invention consists, first, in the arrangement of a device for pressing the file blank in front of the cutting tool, composed of three parts, viz: the stock, the intermediate section, and the adjustable presser, all arranged so as to give an even pressure across the face of the blank. Secondly, in a curved and tapered bed for the file blank, which gradually tapers to correspond with the taper of the blank, which rests in a corresponding groove, so that as the presser has less surface to act upon at the point, the bed presents less friction to the action of the presser in adjusting the face of the blank in time with the cutting tool.

Claim.—First, the combination of the body of the regulator with the adjustable section B connected therewith, substantially as described, whether the latter presses directly upon the shape or through the intervention of the presser *a*.

Second, the combination of the body of the regulator, the adjustable section and the presser *a* hinged to the latter, substantially as described.

Third, giving to the rotating bed a taper whereby the ability of the regulator to cause the rotation of the bed is made comparatively uniform throughout, and this whether the same bed is used for all shapes, or a separate bed is provided for each shape or description of file.

No. 50,596.—CHARLES J. JONES and EMMA W. JONES, New Brighton, N. Y.—*Fire Escape.*—October 24, 1865.—This invention relates to that class of fire escapes which are composed of a series of steps, arranged so that they can fold up and be stowed away in a comparatively small space when not used, and when they are used they are thrown out of the window, the upper end being secured inside the building, and the steps in falling down arrange themselves in proper position, and form a ladder, by means of which persons can escape from a burning building.

Claim.—A ladder composed of a series of frames B, each containing one or more folding steps *b*, provided with suitable stops, in combination with links *a*, and banisters *e*, constructed and operating substantially as and for the purpose set forth.

No. 50,597.—JOSHUA W. JONES, Harrisburg, Penn.—*Book Clamp.*—October 24, 1865; antedated April 27, 1865.—This invention consists in the mode of opening and closing the jaws of an ordinary vice, by means of an eccentric with a projecting handle, so as to adjust the device to the different thicknesses of the book.

Claim.—The combination of a stationary and movable jaw adjusted by screws D and E, and worked by an eccentric in the manner before described. I do not claim the stationary and movable jaw, but the manner of working it by an eccentric, and adjusting it to suit the different thicknesses of the book, as before described.

No. 50,598.—EDWARD KAYLOR, Pittsburg, Penn.—*Machine for Turning Rim Bases of Cannon.*—October 24, 1865.—This invention consists in the employment of a shaft, carrying a revolving cutter, which is susceptible of feed motion, to and from the axis of the shaft upon which it revolves. The shaft is arranged to slide up to and from the article to be planed, and is operated by a revolving former, at its rear end, working upon a shaft at right angles to the one carrying the tool, which also has a sliding motion to bring the different parts of the former to act upon the tool-carrying shaft.

Claim.—The combination of the shaft *a*, carrying a revolving cutter *b*, a planing tool, susceptible of feed motion to and from the centre of its shaft, with the revolving and sliding pattern or forming block *g*, moving at right angles to the shaft *a*, and so shaped as to give to the cutter an irregular motion, for the purpose of planing or cutting irregular curved surfaces.

No. 50,599.—EDWARD KAYLOR, Pittsburg, Penn.—*Bolt-heading Machine.*—October 24, 1865.—This invention consists in the arrangement of two pairs of V-shaped swages, converging towards the bolt-head in the centre, and driven by a central driving wheel, each swage being operated by a cam upon a shaft independently of the other, and so arranged that any wear or lost motion of one wheel does not affect the other. A drop hammer operates upon the end of the blank, to upset it, to form the head.

Claim.—First, the use of V-shaped swages for forming the head of bolts in combination with cams for operating them, when so constructed and arranged as that each swage cam shaft shall have a separate bearing in the frame of the machine, and shall be operated by a cog wheel thereon, gearing directly into a central driving gear wheel, instead of gearing into the cog wheel on either of the other cam shafts, substantially as and for the purpose hereinbefore described.

Second, the combination of the crab b', and sleeve d', with the cam projection i', and post K′, with a spring e', or other device for pressing the sleeve and crab together, for the purpose of a self-acting clutch.

Third, the combination of the self-acting clutch, constructed substantially as described, connected with the pulley y' by a rope or chain, and the pulley shaft *w*, and pulley *y*, with its rope or chain, for the purpose of alternately raising and dropping the hammer in the manner hereinbefore set forth.

No. 50,600.—CHARLES A. KING and OTIS A. SMITH, Middletown, Conn.—*Tool for Cutting Washers.*—October 24, 1865.—This invention consists in arranging within the shank of a tool for the cutting of washers of leather, a centre pin, and one or more cutters, all adjustable. The washers are cut by revolving or turning the tool upon the centre pin, in the material from which the washer is to be made.

Claim.—A tool for cutting washers having either a fixed or adjustable centre pin and one or more adjustable cutters, all arranged within the tool, substantially in the manner described.

No. 50,601.—SAMUEL U. KING, Windsor, Vt.—*Machine for Bending Wood.*—October 24, 1865.—This invention consists in a peculiarly arranged series of adjustable clamps, which, by the movement of a lever, are made to fasten simultaneously upon the blank, or wood to be bent; then by the movement of another lever the clamps are so adjusted as to give the desired shape to the blank thus clamped.

Claim.—The machine substantially as described and for the purpose specified, it consisting of the several series of jaw carriers *c d c c*, connected together and with their supporting frame, by means as described, the stationary and movable jaws *f g* of such carriers, the mechanism for simultaneously operating the movable jaws relatively to the fixed jaws in manner as described, and, finally, the mechanism for simultaneously actuating the jaw carriers, in manner as explained, the whole being arranged so as to operate on a snath, and bend it with a uniform longitudinal compression or contraction, and in other respects, as hereinbefore specified.

Also, the combination of the adjusting screws *a'*, and the nuts *b2 b2*, with the jaw carriers to which they are applied, and with the mechanism for actuating the jaw carrier so as to effect the bending of a snath in manner as described, the purpose of such screws and nuts, or the object to be effected by them, being hereinbefore explained.

No. 50,602.—GEORGE KRIEBEL, Hosensack, Penn.—*Wood-bending Machine.*—October 24, 1865.—This invention consists in applying to the metallic bending strap having projections at the end for the purpose, hinged dogs, so that they will act to hold and press the bending strap enclosing the wood to be bent, in close contact with the mould around which the wood is bent, and when the screw clamp is moving the mould forward for so bending the wood.

Claim.—The hinged dogs *f*, in combination with the mould G, to which the wood to be bent and strap are fastened by a screw clamp, and with the feed screw D, constructed and operating substantially as and for the purpose set forth.

No. 50,603.—CHARLES W. LE COUNT, Norwalk, Conn.—*Blacksmith Tongs.*—October 24, 1865.—In this invention one section where the two parts cross each other plays in a mortise made through the other section, that portion of each which intervenes between the jaw and the handle being curved so that the two latter lie in different planes. The rear edge of the curved portion of one section is cut down so as to stand at right angles to the jaw and handle, and is provided with a series of notches, either one of which may be hooked upon a fulcrum pin, which passes through the mortised section, as may be necessary to adjust the jaws to grasp articles of different dimensions.

Claim.—The tongs, constructed as and for the purpose described, or their equivalent.

No. 50,604.—C. W. LE COUNT, Norwalk, Conn.—*Lathe Dog.*—October 24, 1865.—This invention consists in securing the dog to the face plate by a ball and socket joint, so as to allow free play to the connection between the shaft and centre; and also in the use of two screws for holding the shaft to it.

Claim.—First, the attachment of a dog or carrier to the centre chuck of a lathe by means of a ball and socket joint or its equivalent, substantially as and for the purpose herein specified.

Second, furnishing the so attached dog with two set screws R R, arranged on opposite sides and in line with each other, substantially as and for the purpose herein specified.

No. 50,605.—JOHN C. LEE, Seville, Ohio.—*Field Fence and Gate Combined.*—October 24, 1865.—This invention consists in the combination of the gate with the posts and fence, one of the said posts being slotted to receive the ends of the panels of the gate when closed.

Claim.—The arrangement of the panel or gate F, in combination with the mortised post B, post A, strips *d'*, slats *d*, as and for the purposes set forth.

No. 50,606.—WILLIAM J. LIPPINCOTT, Pittsburg, Penn.—*Grinding and Polishing Saws.*—October 24, 1865.—This invention consists in the general arrangement and combination of several devices, constituting a saw-grinding machine, and is fully set forth in the claim.

Claim.—In machines for grinding and polishing long saws, the arrangement of a grindstone supported on adjustable bearings, so as to be raised or lowered at pleasure, in the manner described, with a rest roller of small diameter, having its axis parallel to that of the grindstone, and with one or more parts of feed rollers having pressure screws or their equivalent, so as to hold and guide the saw in its passage under the stone, such feed rollers being geared together and also connected by gearing with the rest roller, and having a positive and continuous motion on their axes in such direction as to feed the saw plate forward either with or against the motion of the revolving grindstone, substantially in the manner and for the purposes hereinbefore set forth.

No. 50,607.—SAMUEL M. LONGLEY, Hudson, N. Y.—*Hoisting Apparatus.*—October 24, 1865.—This invention has for its object the lifting of either very heavy or light weights by an apparatus that shall be portable. This object is accomplished by a certain construction, whereby great lifting power is obtained, which may be so varied as to obtain a slow movement for heavy weights and a quicker movement for light weights.

Claim.—First, the endless screw J and worm wheel H, in combination with the differential or double grooved pulleys F G and the suspended frame A, substantially as herein described.

Second, in combination with the sheave or frame A, the guard or covering *f*, constructed and operating in the manner and for the purpose substantially as herein described.

Third, the combination, in one suspended frame, of a differential pulley F G, a worm wheel H, endless screw J, and a disengaging device for throwing the endless screw out of gear, the whole operating substantially as herein set forth.

No. 50,608.—HENRY MAY, Bridgeport, Conn.—*Method of Embossing Wood.*—October 24, 1865.—The pieces of wood to be moulded are cut crosswise from the log, and after being thoroughly seasoned are placed under dies of any desired form in such a manner that a heavy pressure may be brought upon the ends of the fibres; the pieces having been duly stamped are released from pressure without any unnecessary delay.

Claim.—The improved article of manufacture herein described, consisting of sheets or cross sections of wood, stamped or compressed into useful or ornamental forms, patterns, or devices, by applying the pressure and producing the device upon the end of the grain, substantially as set forth.

No. 50,609.—BELA GARDNER, Northampton, and EDWIN F. MILLER, Williamsburg, Mass.—*Machine for Drawing Belts Together.*—October 24, 1865.—This invention consists of two clamps of peculiar construction, arranged so as to clasp the two ends of a belt and hold them until they are connected by means of screws driven from a counter shaft; the two ends of the belt are drawn together by means of two bevel gears operated through a crank.

Claim.—First, the clamp A or B, when constructed in the manner and for the purpose herein set forth.

Second, in combination with said clamp the screws *o p* or *o' p'*, for the purpose and in the manner described.

Third, the combination of the clamps A B, screws C D, bevel gears *g h k l*, and shaft P, when arranged and operating substantially in the manner and for the purpose herein described.

Fourth, forming the grooves or flutes *e e*, or their equivalents, on the projections *f f'*, and corresponding flutes or grooves *s s* on the bed pieces *a a'*, in the manner and for the purpose described.

No. 50,610.—JOHN A. MILLER, Somerville, Ohio.—*Broom Head.*—October 24, 1865.—This invention consists of a clamp or wrapper made wholly of sheet metal, having flanges at the edges to secure the parts together by a locking slide and wood screws.

Claim.—The sheet metal head A D R *m m n n*, furnished with flanges *i* to receive a lock slide B *b*, substantially as set forth.

No. 50,611.—JOHN A. MILLER, New York, N. Y.—*Cast-iron Boiler.*—October 24, 1865.—This invention consists in strengthening the fire-box and flues of cast-iron boilers by making ribs upon their outer and inner surfaces, and which constitute a part of the box or flue. It also consists in providing pins, which inward and outward form the surface of the fire-box and flues, and are a component part thereof, the object of which is to increase the heating surface of the boiler; it also consists in providing the internal surface of the flue with oblique ribs for the purpose of giving a spiral motion to the products of combustion on their passage through them, and to prevent the lodgment of sparks or cinders on their inner surfaces.

Claim.—First, the fire-box B, with ribs or flanges *b* projecting inwardly and outwardly therefrom, substantially as set forth.

Second, the conducting pins *a a* projecting inwardly and outwardly from the shell of the fire-box or flue, substantially as set forth.

Third, the flue *c*, with the oblique tapering ribs forming a portion thereof, as and for the purposes specified.

No. 50,612.—CHARLES N. MORRIS, Cincinnati, Ohio.—*Method of Printing.*—October 24, 1865; antedated April 24, 1865.—This invention has for its object the production of lines of shaded metallic letters or other characters of different sizes from a single form of types, in such manner that each character will have the appearance of standing out in bold relief from the surface on which it is printed.

Claim.—First, producing lines of shaded metallic letters or other characters of varying sizes on cards and other advertising matter, substantially as described.

Second, shading all the lines on a card or other advertising matter, or the majority of said lines, when the metallic covering, sizing, and the shades are applied, substantially as herein described.

Third, the process herein described of making the impression which succeeds the ink impression and precedes the metallic impression, or covering with a stiff size, in combination with other steps of the process herein given, all for the purpose set forth.

No. 50,613.—REES MOSS, Philadelphia, Penn.—*Adjustable Stove Grate.*—October 24, 1865.—This grate belongs to that class which can be raised or lowered for the purpose of varying the capacity of the fireplace. The invention consists of an adjustable horizontal grate, provided with certain projections, which are arranged at its edges and extend beyond

them towards the sides of the fireplace and towards the spaces between the bars of the front vertical grate, so that when the horizontal grate is raised the aforesaid projections will detach the slag from the interior of the fireplace and keep it free from obstruction.

Claim.—The adjustable grate F, with its projections *j*, when the said projections are arranged at the edges of the grate, and extend beyond the same toward the sides of the fireplace and towards the spaces between the bars of the vertical grate D, as and for the purpose specified.

No. 50,614.—BYRON MUDGE, Cortlandville, N. Y.—*Mode of Sinking Wells.*—October 24, 1865.—This invention consists in driving a pointed rod of iron or steel perpendicularly into the ground, withdrawing the rod, and inserting a pipe of nearly equal size in its place, which completes the well.

Claim.—The process or mode of constructing or sinking wells where no rock is to be drilled, viz., driving a rod down to and into the water underground, withdrawing it, and inserting a pipe in its place, substantially as herein described.

No. 50,615.—THOMAS NEELY and CHARLES BISHOP, Tiffin, Ohio.—*Thill Tug.*—October 24, 1865.—This invention consists of a metallic thimble, combined with a leather tug or lug strap in such manner that the thimble shall receive the thill and protect those portions of the strap which surround it from wear.

Claim.—First, applying a tug strap to a metallic eye B by passing a portion of the strap around said eye, substantially as described.

Second, a metallic tug eye, which is constructed with flanges *a a*, and a tang *b*, substantially as described.

No. 50,616.—C. S. NICKELSON, Canton, N. Y.—*Door Bell.*—October 24, 1865.—This invention consists in the combination of a door bell with a door plate, the latter being provided with a sliding bar, having a handle for actuating the hammers of the bell.

Claim.—First, the crank arms *n* and *r*, bolt or pin *m*, and sliding bar *z*, arranged, connected, and operating together, substantially in the manner and for the purpose described.

Second, the combination with the door plate *g* of the sliding or operating bar *z*, having a handle *a'* for actuating the hammer or hammers of the bell *f*, said bar being connected with them through the devices described and arranged within the door plate, as specified.

No. 50,617.—ALFRED NOBEL, Hamburg, Europe.—*Substitute for Gunpowder.*—October 24, 1865.—This invention consists in the substitution for gunpowder of nitro-glycerine, prepared in such a manner that the liquid, which, when exposed to the air, cannot be wholly decomposed and exploded, shall, by confinement, be subjected to heat and pressure by which its total and immediate decomposition and explosion are effected.

Claim.—The use of nitro-glycerine, or its equivalent, substantially in the manner and for the purpose described.

No. 50,618.—LEWIS F. NOE, New York, N. Y.—*Swing.*—October 24, 1865.—This invention consists of a folding seat for a swing, which, when in use, may be prevented from tipping over, and when not in use may be compactly folded for transportation.

Claim.—A swing with the bottom and back of the seat hinged together, with pendent ropes A and brace ropes C D, arranged and connected with each other and with the bottom and back of the seat, substantially as herein specified.

No. 50,619.—JAMES OLD, Pittsburg, Penn.—*Pipe Coupling.*—October 24, 1865.—This invention consists in making a coupling for wrought-iron artesian well tubing of malleable iron as a new article of manufacture; also in the mode of securing the coupling to the tubing, and also in the use of valves in the coupling, forming a communication between the interior and exterior of the tubing for the passage of gas in oil wells.

Claim.—First, connecting a thin metal pipe to a section of screw coupling by screwing the former with the latter, and otherwise securing them, as hereinbefore described.

Second, making the coupling for tubing of wells with a valve or valves constructed and arranged substantially as described, for the passage of gas or oil from the exterior to the interior of the tubing.

No. 50,620.—JOHN A. PARISE and C. W. MACCORD, New York, N. Y.—*Molasses Pitcher.*—October 24, 1865.—This invention consists of a funnel-shaped mouth surrounding the discharge spout of the pitcher for the purpose of collecting all the liquid which runs over the lip of the spout and down its outside, and conducting the same back into the pitcher through an orifice for that purpose.

Claim.—First, the central pouring spout B, fitted into the neck of the vessel, surrounded by a funnel-shaped or enlarged mouth or overflow receiver *f*, and having an opening *d* for the return of the overflow to the vessel, substantially as and for the purpose herein set forth.

Second, the internal flange *g* around the mouth or overflow receiver *f*, in combination with the central pouring spout *b*, substantially as and for the purpose herein specified.

No. 50,621.—CALVIN PARSONS and B. S. DANE, Rome Centre, Mich.—*Washing Machine.*—October 24, 1865.—This invention consists of a flat-faced rubber, secured to arms attached to a frame moving in slots in the back part of the tub to keep them in position, and a set of rollers in the bottom of the tub between which and the flat-faced rubber the clothes are washed.

Claim.—The arrangement described, consisting of the roller F in the frames E, and the rubber H, operated by means of the cross-bar L, and guided by the bars S in the slots G.

No. 50,622.—F. C. PAYNE, New York, N. Y.—*Spiral Spring.*—October 24, 1865.—This invention consists in first twisting the wire in a direction contrary to the spiral coil into which it is afterwards formed.

Claim.—A spiral spring, composed of wire having a twist, substantially as herein specified.

No. 50,623.—ABIEL PEVY, Lowell, Mass.—*Cupola Furnace.*—October 24, 1865.—This invention consists of a furnace constructed with parallel sides, and provided with a wind chest which extends around the furnace and is connected with the tuyeres. The said chest is supplied with air by means of the pipes at each end, which pipes are provided with valves. The tuyeres are placed in the sides of the furnace, and are provided with glass windows.

Claim.—A cupola having parallel sides and plain ends, the sides being extended to the length desired for any required capacity of furnace, and the blast being distributed uniformly along their whole length, but not at the ends, substantially as and for the purpose herein specified.

Also, supplying the air to the wind chest of the tuyeres through a pipe at each end of the furnace, each provided with a valve, so as to insure thereby a balanced and uniform blast through all the tuyeres, for the purpose herein set forth.

Also, the construction and arrangement of the tuyeres, substantially as and for the purposes herein specified.

No. 50,624.—T. R. PICKERING, New York, N. Y.—*Governor for Steam Engines.*—October 24, 1865.—This invention consists in constructing the springs of a plurality of leaves, and combining springs so constructed with two collars upon the shaft, one of which is rigidly secured to it, while the other is so arranged as to slide upon it. It also consists in constructing the balls in tubes, and providing in one of them a groove for the reception of the spring, and also in furnishing a guide and stop for the balls, so that the centrifugal action shall not carry them out to such an extent as to cause injury to the springs.

Claim.—First, the springs S, composed each of two or more leaves, rigidly connected at their ends and centres, and combined with the sleeves E and G, substantially as herein specified.

Second, the balls I I, centrally divided into two parts, one of which is grooved to fit the spring, and the two secured together and made to clamp the several leaves of the spring by means of a central screw O, substantially as herein specified.

Third, the guards L L, constructed and attached to the balls, and operating in combination with the central spindle, substantially as herein described.

No. 50,625.—G. W. PIERCE, Holley, N. Y.—*Barrel Machinery.*—October 24, 1865.—This invention consists of a horizontal spur gear wheel, having a platform upon it which carries the cylinder of a barrel, and gears into a pinion which gives a revolving motion to the barrel, over which is arranged the revolving tool head, carrying a saw, bevel planer, and crozing tool. Over a beam is a slotted spring, with an inclined plane on its end, the shaft of the tool head working in a slot, so that as the platform gear wheel is slid in and out of gear by means of a post to which the spring is attached, and operates the spring, the tool-head is raised out of the barrel.

Claim.—In combination with the rotating platform K, gear wheels N O, carriage I, and lever Q, the elevating device H F G E, to raise the cutting device D D′ D″, automatically, when the wheel N is thrown out of gear with the pinion O to allow the barrel to be removed.

No. 50,626.—S. W. PINGREE, Lawrence, Mass.—*Apparatus for Making Extracts from Tan Bark.*—October 24, 1865.—This invention consists of a box with a tightly fitting cover, divided into compartments, and provided with perforated false bottoms. A pipe extends over the entire length of the box, and pipes lead into each compartment, a perforated box being attached to each pipe. The exhaust pipe is connected with the waste pipe of a steam engine.

Claim.—The boxes G, with perforated sides, applied in combination with the exhaust pipe D and leach A, or its equivalent, in the manner and for the purpose substantially as set forth.

No. 50,627.—TAPPING REEVES, Albion, Cal.—*Sawing Machine.*—October 24, 1865.—This invention consists in the arrangement of a friction wheel driving the carriage of an edging saw table, a clutch and dog, or tripper, by which the feed is thrown off and the carriage stopped when it has run through the machine.

Claim.—The combination of the dog *n* on the travelling platform, and the shipping arrangement and clutch, or their equivalents, with a friction wheel, which drives the said platform, substantially as and for the purpose above described.

No. 50,628.—CHRISTIAN RITTER, Reading, Penn.—*Gas Burner.*—October 24, 1865.—This invention consists in a sliding tube, open at both ends, and perforated at the upper end with numerous small holes to be placed over the gas pipe, and rising above it, so as to allow a draught of air to pass through the holes to the flame.

Claim.—A sliding tube A of brass or any other suitable substance or material, open at both ends, the upper end being perforated C, to slide over gas burners, in the manner described, for the purposes set forth.

No. 50,629.—A. J. ROBERTS, Boston, Mass.—*Street-sweeping Machine.*—October 24, 1865.—The object of this invention is to remove the dirt from close to the curbstone, and leave it where an ordinary machine may get at it. The nature of the invention will be understood from the claim.

Claim.—First, so arranging a series of brooms or brushes, either one or more, to and upon the outside of a suitable wagon frame, in the direction of its length, and so connecting their shaft or shafts to and with the driving or rear wheels thereof, that as the wagon is drawn forward the said brushes or brooms shall be made to revolve at right angles, or nearly so, to the direction in which the wagon moves, substantially as and for the purpose specified.

Second, the combination of the angular or inclined horizontal brush shaft *u* with the side brush shaft *t*, both provided with a series of suitable brushes or brooms, and arranged together and connected with the driving wheels of a wagon frame, substantially as described and for the purpose specified.

Third, in combination with the above, and either when used separately or together, the use of the horizontal broom shaft *g'*, substantially as and for the purpose specified.

Fourth, hanging the frame in which the several broom shafts have their bearings, and all suspended in such a manner that their brushes can be raised from or lowered to the ground at pleasure, and can adjust themselves to the inequalities thereof as they are revolved, substantially as hereinabove described.

Fifth, attaching the driver's seat to and upon the outer end of a lever arm B', turning upon a fulcrum *y'* of the crane-neck-shaped bar E and bearing by its inner end against a fixed elastic cushion or spring Z' of the wagon frame, as and for the purpose specified.

Sixth, the use of the spring lever *w'*, having pulley *x* of the wagon frame, in combination with the driving belt or band N, as and for the purpose described.

Seventh, attaching the frames in which the broom or brushes used are fastened to their shaft by means of one or more bent or other suitable metallic springs, for the purpose and substantially as described.

No. 50,630.—A. J. ROBERTS, Boston, Mass.—*Street-sweeping Machine.*—October 24, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, so connecting the frame containing the sweeping devices and the endless dirt-carrying belt or band to the wagon or dirt box of a sweeping machine that it can be readily detached therefrom or attached thereto at pleasure, substantially as and for the purpose specified.

Second, the combination of the axle ring G and ring H, attached together and to the front wheels of the sweeping machine, and operating substantially as and for the purposes specified.

Third, the arrangement of the worm *g*2, pinion *f*2, and shaft *d*2, lever handle *m*, and lifting cords *c*2, operating substantially in the manner described, for the purpose of opening and closing the bottom plates of the dirt-box, as specified.

Fourth, the combination of the hook-shaped lever arms W with the fixed projecting plates A', the arms being so connected to and with a suitable handle lever S through rods *v w* that by raising or depressing the said handle the hooked ends of the arms *w* will be correspondingly moved, substantially as and for the purposes described.

Fifth, the employment in street-sweeping machines of an endless dirt-carrying belt or band, made of India-rubber or any of its elastic compounds, and having suitably shaped ridges, for the purpose described.

Sixth, forming upon and along each of the interior surfaces or faces of the sides of the frame M a guiding groove or channel S2, in and through which the endless belt N moves, for the purpose specified.

Seventh, inserting between the bent metallic springs by which the broom frames are fastened to their centre shaft and the said shaft an elastic cushion *d*4, in combination with a set screw *f*4, for the purpose and arranged as described.

No. 50,631.—WILLIAM ROBINSON, Bellefontaine, Ohio.—*Churn.*—October 24, 1865.—In this invention the churn box stands in a vertical position and rotates upon a central axis. A sleeve encloses the shaft in the centre of the churn, and upon the top of the shaft is a hub to which beaters are attached; these beaters can be removed at pleasure.

Claim.—First, the combination of a driving device, applied to the bottom of the churn, with a hub D and tube C', substantially as described.

Second, extending the hub D and the upper end of the spindle B through the top of the churn cover, in combination with the tube C′, substantially as described.

Third, the radial blades *e e*, applied to a collar *g*, which surrounds the central tube *e′*, and which, together with the blades, can be removed from the churn box at pleasure, substantially as described.

Fourth, the gathering paddle *h* applied to the removable collar *g*, substantially as described.

No. 50,632.—DANIEL and JOHN RUPP, New York, N. Y.—*Machine for Pressing and Smoothing Photographs.*—October 24, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—Our new and improved machine for pressing and smoothing photographs, &c., having its several parts constructed and arranged in relation to each other, and so as to operate together, substantially as shown and described.

No. 50,633.—J. N. SCRANTON, Bennington, Vt., and H. H. PARSONS, Hoosick Falls, N. Y.—*Dentist's Mallet.*—October 24, 1865.—This invention consists in a mallet, the blow of which is produced by the action of a spring, the hammer being made in the form of a rod of cylindrical form, and the spring bearing against it. The hammer rests on the rod to which the tool is fixed, and the two are connected by a spring dog; when the hammer is forced back against the spring at a certain point, the spring dog is released, and the hammer is forced down; the tension of the spring is rendered adjustable, and the instrument is so made that it can be operated by one hand and the tension regulated at will.

Claim.—First, the combination of the tool-holder, hammer, spring catch and spring, substantially as herein described, so that by pressing the tool or tool-holder C against a resisting object, the hammer is forced back against the action of the spring, and then allowed to come down upon the tool-holder, and to produce a blow of more or less force.

Second, making the tension of the spring K adjustable, substantially as herein described, so that the force of the blows of the hammer can be regulated.

Third, the inclined plane *m*, in combination with the spring catch tool-holder and hammer, applied and operating substantially as and for the purpose set forth.

Fourth, making the inclined plane adjustable on the case A, substantially as and for the purpose described.

No. 50,634.—GEORGE C. SHARP, New York, N. Y.—*Track Cleaner for Railroads.*—October 24, 1865.—This invention consists in a combination of adjustable brooms or brushes with a platform and carriage running on wheels upon the track of a railroad for the purpose of clearing the same from snow and ice.

Claim.—The combination of a platform on wheels with brooms or brushes, substantially as above described.

No. 50,635.—WILLIAM A. SHEPARD, New York, N. Y.—*Cotton Press.*—October 24, 1865.—This invention consists of two creeping cross-beams supported by ratchets and connected by two or more pairs of links, in combination with a centrally located driving crank; also, of a driving wheel arranged to operate in a given position in combination with a main shaft, a system of levers, and a driving crank arranged to move intermittently with the said creeping beams.

Claim.—The combination of the toggle joints or levers *e e* and *d d*, or their equivalents, with the creeping or alternately moving beams E E′ and driving crank, or its equivalent, the whole arranged to operate in the manner substantially as described.

Also, the employment, in combination with the driving gears and mechanism for moving the beams E E′, of sliding shaft C, and permanently located driving pulley B, as and for the purposes set forth.

Also, the employment, in combination with the beams, ratchets and bolts, of levers L, so arranged and connected with said bolts as to enable the operator to quickly drop the moving beams, as described.

No. 50,636.—ASAHEL A. SMITH, Boston, Mass.—*Scale-pan and Tunnel.*—October 24, 1865.—This invention consists of a scale-pan made with a tubular spout that answers for a tunnel, a handle to the pan, and the whole can be used as a scoop.

Claim.—The scale-pan as made with the tunnel or tubular spout arranged at one end of it, substantially as described.

No. 50,637.—H. B. SMITH, Lowell, Mass.—*Planing Machine.*—October 24, 1865.—This invention consists in the use of an universally jointed shaft in such manner that it is capable of allowing the gearing which is hung in a swinging frame to keep in gear, while the feed rollers may be worked further apart, to suit the thickness of the stock without in any way interfering with the operation of the gear.

Claim.—The arrangement and combination of the universally jointed shaft K L, feed roller G, swinging frame I, and gearing M M N N, substantially as and for the purposes set forth.

No. 50,638.—HAMILTON E. SMITH, Cincinnati, Ohio.—*Washing Machine.*—October 24, 1865.—This invention consists of a perforated cylinder revolving within a suitable receptacle. The inner surface of the cylinder has a series of pegs which project into the interior with such varying lengths that their faces present collectively a polygonal shape, to act when the cylinder is rotated as beaters on the clothes, and at the same time permit a free passage of the suds or water.

Claim.—The washing cylinder provided with alternate perforations and inwardly projecting pegs, whose extremities form collectively a regular polygon, for the purposes set forth.

No. 50,639.—WM. W. SNELL, Rushford, Minn.—*Swarm Indicator for Bee-hives.*—October 24, 1865.—In this invention the hives are placed upon a balanced platform, so that when the swarm comes out the platform tilts, thereby operating levers which release the pallets of a common clock-work by which a bell is struck, thus giving the alarm.

Claim.—The employment or use of an alarm or an indicator or signal of any kind applied to or arranged in connection with bee-hives in such a manner that in case of the swarming of a hive the diminution of the weight thereof produced by the egress of the bees will cause the alarm or indicator to be operated.

Also, the tilting platform A, in connection with the arm D, lever F, and the alarm, arranged to operate in connection with the hives, substantially in the manner as and for the purpose set forth.

No. 50,640.—E. SPENCER, Philadelphia, Penn.—*Flour Sifter.*—October 24, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—A casing having a perforated bottom, in combination with a shaft having any desired number of inclined blades and a brush, a detachable perforated plate or sieve B, and a detachable cross-piece C, the adjustable nuts *e e'*, for the purposes described.

No. 50,641.—OTHNIEL STONE, Rochester, N. Y.—*Treating Diseases by Condensed Air.*—October 24, 1865.—This invention consists of a chamber in which a vessel is placed and into which air is condensed, passing through another vessel containing water, which acts as a purifier.

Claim.—First, the employment or use of a condensed atmospheric bath, for the purpose of curing or treating diseases, as set forth.

Second, the purifier R, constructed, arranged, and operating in combination with the bath, substantially in the manner shown and for the purposes specified.

Third, the employment or use of a variable escape valve, in combination with the condensed atmospheric bath chamber, substantially as and for the purposes set forth.

Fourth, the arrangement of the escape valve V, in or near the bottom of the bath chamber, as shown, and for the purposes herein described.

No. 50,642.—A. J. TEWKSBURY, Haverhill, Mass.—*Device for Registering the Number of Shoes Soled by a Sewing Machine.*—October 24, 1865; antedated October 4, 1865.—This invention is designed as an improvement on McKay's patent of August 12, 1862, No. 36,163. Each revolution of the rotating horn, on which is carried a toothed wheel, gives a rotation to said wheel to the extent of a tooth, by means of a stationary swing catch over which the wheel passes. A supplemental wheel acted on by the first, registers any desired multiple of the first. The catch can be so swung on its centre that the teeth of the wheel in passing it will not be affected by it.

Claim.—A device for indicating the number of shoes stitched on shoe-sole stitching machines, composed of one or more wheels, or their equivalents, operated by the motion of the rotating horn on which the shoe is stitched.

Also, swinging catch E, or its equivalent, operating as described, and for the purpose specified.

No. 50,643.—JOHN THACKER, New Lexington, Ohio.—*Boring Apparatus for Artesian Wells.*—October 24, 1865.—This invention consists of a horizontal shaft terminating in a screw, in the groove of which runs the drill rope, and off the end of which the drill rope is wound at every revolution, thus producing a percussive motion of the drill.

Claim.—The horizontal shaft ending in a screw, by means of which the rope to which the drill is attached falls from the centre of the shaft, in combination with a slack spool gauged by the set screw to pay out the rope. The shaft may be of wood or iron, as well also the screw.

No. 50,644.—LLOYD THOMAS, New Philadelphia, Ill.—*Syrup Boiler and Evaporator.*—October 24, 1865.—This invention consists in arranging the evaporating pans on each side of the fire chamber, the said pans communicating with each other by means of tubes which form the grate-bars of the fire chamber.

Claim.—The hollow grate-bars on which the fire and fuel are placed, through which any liquids may pass for the purpose of heating said liquids and for the preservation of the grate bars and the chambers which form part of the heating furnace, and boiling any liquids that may pass through them; also a skimmer that is placed at the top of chamber 2.

No. 50,645.—JAMES THOMPSON, Vevay, Ind.—*Churn.*—October 24, 1865.—In this invention the dasher vibrates back and forth upon a rock shaft by means of a crank upon the outside of the churn body. Just below the opening of the passage of this shaft through the box is placed a dripping board or pocket which opens into the body of the churn.

Claim.—First, the dasher L *l l' l''*, formed and operating as set forth.

Second, the arrangement of pouch I *i*, and drip-way J.

Third, the pouch I *i* and drip-way J, when combined with the notch N and key O.

No. 50,646.—CHARLES T. WESTON, Scranton, Penn.—*Grinding Mill.*—October 24, 1865.—The object of this invention is to so hang a millstone as that the parallelism of the face of the two stones will always be preserved, and it consists in providing on the under side of the bed-stone three plates through which the spindle passes. One of the said plates is rigidly attached to the stone, and has a depression at its centre which passes through an opening in the second plate and into a corresponding cavity in the lower plate, which is secured to the framing of the mill and so arranged together as to form a kind of universal joint, which allows the bed stone to adjust itself to the face of the runner. The bail and driver is attached to the spindle by cutting grooves into the spindle and inserting therein the shoulder of the driver, and also in providing a hollow tube for lubricating the upper end of the spindle.

Claim.—First, the universal joint F F, constructed and arranged substantially as herein described, for supporting the bed-stone B, so as to make it self-adjusting.

Second, the combined bail and driver arranged on the spindle, in connection with the screw collar, to operate in the manner substantially as and for the purpose set forth.

Third, the tubular rod fitted into the upper end of the spindle and attached to a frame which extends over the runner, for the purpose of keeping said end of the spindle in a proper lubricated state, substantially as described.

Fourth, the intermediate plate G' between the two plates D G of the universal joint, provided with pins *a' a'* to fit into notches *b' b'* in the plate D, and having slots *c' c'* made in it to receive pins *d'* on the plate G, substantially as and for the purpose specified.

No. 50,647.—MILTON D. WHIPPLE, Boston, Mass.—*File-cutting Machine.*—October 24, 1865.—In this machine the cut is produced by pressure upon the cutting tool, and the improvement consists in the application of a spring to the fulcrum of the lever upon which the cutting tool vibrates, so that a pin upon the sliding file-bed shall operate a lever, when the wide part of the blank is passing under the tool, in order to produce a heavier pressure upon the blank and thereby give a uniform depth of cut throughout the wide and narrow parts of the blank.

Claim.—First, the combination of the lever *f* and elliptic spring *m*, elongated journal boxes and rod *l*, operating as described, and for the purpose specified.

Second, the combination and arrangement of the arm *n'*, cam *l'*, and spring *k'*, with the rod *l*, for the purpose specified.

No. 50,648.—FREDERICK WOOD, Bridgeport, Conn.—*Carriage Axle Box.*—October 24, 1865.—This invention consists of a recess formed around the interior of the axle box constituting an oil chamber provided with one or more partitions, whereby the oil is carried around the axle with every revolution, instead of settling in the bottom of the chamber under the axle.

Claim.—The forming of one or more partitions across the oil chamber recess, in the manner described or in any other manner substantially the same.

No. 50,649.—JAMES O. WOODRUFF, Auburn, N. Y.—*Applying Solutions to the Interior and Exterior of Oil Barrels, &c.*—October 24, 1865.—This invention consists of a tank for holding the solution to be applied, said tank communicating with an air-tight vessel by means of a pipe. The said vessel is connected to another vessel by means of pipes. A steam pipe enters the outer vessel near the bottom, and terminates near the top. The barrel is placed in the vessel, and a sufficient quantity of the required solution is let into the inner vessel from the tank. Steam is then allowed to enter through the pipe, and forces the solution into the chamber. After the barrel has become saturated, the steam is shut off and the solution allowed to flow back to the vessel, after which the barrel may be removed.

Claim.—The applying of solutions simultaneously to the interior and exterior surfaces of casks, barrels, &c., by placing the cask or barrel, in a suitably warm state, within a vessel, and forcing the solution into and around the cask or barrel, and ejecting the unapplied solution therefrom, by means of steam, substantially as herein shown and described.

No. 50,650 —RICHARD YEOMANS, Chicago, Ill.—*Combination Rack for Printers' Use.*—October 24, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The making and applying the notches or grooves in the manner and for the purposes substantially as described, in combination with the cross-bars, having their ends provided with projecting transverse obtuse edges, or their equivalent round points or pins, for the purposes substantially as described, or any other arrangement embodying the same idea.

No. 50,651.—JOHN S. BARDEN, assignor to the NEW ENGLAND BUTT COMPANY, Providence, R. I.—*Hydraulic Engine and Motor.*—October 24, 1865.—In this invention four cylinders are so arranged that each pair may be operated by an intermediate crank and rods. One shaft and gearing moves the pinion that operates the two cranks. The induction sliding valves are operated by eccentrics at the outer ends of the shafts of the two pinions, and the indicator by the shaft of the main cog wheel intermediate between these pinions.

Claim.—As an invention, the improved engine, substantially as described, the same consisting of the four cylinders A A′ B B′, the two pairs of connected pistons D D D D, and the eduction chamber C, arranged as explained, in combination with the main shaft H, or its equivalent, the valve chest F, valves G G, ports *b b b b*, and mechanism to operate such valves by the piston, substantially in manner as specified.

No. 50,652.—REINHOLD BOEKLEN, Brooklyn, N. Y., assignor to H. T. SISSON, Providence, R. I.—*Letter File.*—October 24, 1865.—This invention consists of a spring applied with respect to the axial rod of the binding flap, in such manner that it alone serves to retain the flap in a position which admits of the introduction of a letter under the points of the binding hooks; also of a deep back shoulder applied to the binding flap, which is curved between the shoulder and its own front edge.

Claim.—First, the employment of a spring which is disconnected from the cam, crank, or eccentric of the axial rod of the binding flap, and applied to a letter file so as to operate in the manner substantially as herein described.

Second, the construction of the binding flap with a shoulder, and from said shoulder to its front edge with a curved form, substantially as described, and for the purpose set forth.

No. 50,653.—THOMAS BROWN, Jr., and JOSEPH L. LOWRY, assignor to said BROWN and JAMES MCLAIN, Pittsburg, Penn.—*Lantern Guard.*—October 24, 1865.—This invention consists in the combination of the ribs and guards of the frame, which are hooked or looped at their upper ends to the cap piece and at their lower ends to the bottom piece of the lantern, with the ring inside of the ribs, to force them outwards, and thus tighten them and hold the globe in place.

Claim.—The combination of the ribs *e*, hooked or looped at their upper end to the cap piece and at their lower end to the bottom piece of the lantern, with the detached cut ring *f*, when so arranged inside of the ribs as to force them outward, and thus tighten the ribs and draw the cap and bottom pieces of the lantern toward each other, with the glass between them, substantially as hereinbefore described.

No. 50,654.—ELIZUR E. CLARKE, assignor to FRANKLIN E. CLARKE, New Haven, Conn.—*Construction of Privies.*—October 24, 1865; antedated October 13, 1865.—This invention consists, first, in so constructing and arranging the several parts of an ordinary out-house or privy that, by the introduction of dry muck or other suitable disinfectant, the night soil will be readily and continually deodorized and rendered pulverulent; second, in providing a method of pulverizing the muck on its downward passage, and of allowing at all times a sufficient quantity thereof to fall into the vault to absorb the moisture and deodorize the night soil; third, in constructing the privy with a back reservoir suited to receive and preserve, in a dry condition, the muck, &c., and connected at its bottom through a suitable passage with the vault below.

Claim.—First, the combination of the chamber or reservoir C, whether attached to the superstructure of the privy or not, with the vault F, when they are so constructed and combined as to produce, by the use of muck, the deodorization of the night soil, &c., substantially as herein described.

Second, the combination of the two bars or boards *a* and *b* with the toothed or spurred shaft *c*, when they are so constructed and arranged as to support, pulverize, and deposit the muck, &c., substantially as herein described.

Third, the combination of the toothed or spurred shaft *c* with the chamber C and vault F, when constructed, arranged, and fitted for use substantially as herein described and set forth.

No. 50,655.—C. J. CRANE, assignor to J. F. CRANE, Burr Oak, Mich.—*Wheel for Vehicles.*—October 24, 1865.—This invention consists of a nut, sleeve, and screw applied to the spokes of a wheel, and arranged in such a manner that the spokes may be expanded at will and the tire be kept always tightened.

Claim.—The construction of the spoke cap *a* and screw rod *b* with the thimble *f*, flange *e*, and nut *d*, arranged and operating as and for the purpose described.

No. 50,656.—SAMUEL D. DANFIELD, assignor to himself and HENRY WOOD, Philadelphia, Penn.—*Car-brake Shoe.*—October 24, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The metal sole C, with its arms *c c′*, arranged to embrace the wooden shoe A, aud having holes to receive pins or bolts which pass through the said block, all substantially as set forth.

No. 50,657.—H. V. DAVIS, assignor to DANIEL S. PERKINS, Amherst, N. H.—*Seed Planters.*—October 24, 1865.—This invention consists in the combination of the handle, spindle, connecting rod, and lid, in connection with the hopper or mouth, whereby the movement of both the spindle and mouth are made simultaneously.

Claim.—The combination of the spindle *e*, handle *d*, the rods *g c*, the stud *h*, and the arm *b*, applied to the charger and the lid, whereby both charger and lid may be operated simultaneously by turning the handle as specified.

Also, the arrangement and combination of the auxiliary mouth or hopper *w* with the hand seed planter constructed substantially as described and for the purpose set forth.

No. 50,658.—HENRY J. GRISWOLD, assignor to himself and HENRY A. CLARK, Boston, Mass.—*Transparent Composition for Tablets.*—October 24, 1865.—This invention consists of a shellac or other varnish, to which is added a quantity of "Munger's chemically prepared soapstone" or other powdered substance. Coloring matter may be also added if desired.

Claim.—The within described water-proof composition for tablets or other articles upon which a lead pencil is used, consisting of the ingredients in the proportions substantially as specified.

No. 50,659.—JOHN JOHNSON, Saco, Me., assignor to himself and HOWARD TILDEN, Boston, Mass.—*Toilet Mirrors.*—October 24, 1865.—This invention consists of a flexible and adjustable holder carrying a mirror at each end, so arranged as to present in reflection the back and sides of the head.

Claim.—The flexible and adjustable holder, carrying a mirror at each end, combined and arranged substantially as herein described and for the purpose specified.

No. 50,660.—DANIEL C. MEAD and CHARLES MAGGI, assignors to CHARLES MAGGI, Pittsburg, Penn.—*Low-water Detectors for Steam Generators.*—October 24, 1865.—This invention consists in the combination of an expansive metallic bar, enclosed in a tube, by which water is excluded from the bar as well as steam is prevented from coming in contact with it, whereby the expansibility of said bar is made available.

Claim.—The combination and arrangement of the metallic expansion bar, rod, or tube, enclosed in a case or tube, one end of which is closed, which protects said expansion bar from any direct contact with steam or water, substantially upon the principle and in the manner as herein set forth.

No. 50,661.—JAMES MYERS, assignor to himself and SAMUEL N. LIGHTNER, Allegheny City, Penn.—*Piston Packing.*—October 24, 1865.—This invention consists of a solid ring, which fits snugly to the hub of the piston, and which has a portion of its surface reduced to a smaller diameter upon both of its outer edges to receive a cut packing ring. The said rings are held in position longitudinally by means of caps secured upon the inner rings. The packing rings are less in width than the distance between the caps and the shoulder on the main ring, so that when the piston changes its direction the packing ring moves to one side of the groove in which it is placed, and the steam rushes in and through a hole in the main ring into a groove in the main ring, and up again through a hole in the main ring directly underneath the packing ring. As a consequence of this arrangement, both or all the packing rings are acted upon at each stroke of the piston, without reference to the direction in which it is moving.

Claim.—The combination of two or more metallic packing rings *d d'* and the caps *c c* with the piston ring *a*, having passages *e g e'*, connecting the groove or space back of one ring with the groove or space back of the other ring or rings, so that the steam entering from either side of the piston head back of one packing ring shall have free access to the space or groove back of the other packing ring or rings, substantially as hereinbefore described.

No. 50,662.—JAMES PRICE, assignor to JOHN W. TOMPKINS and STEPHEN S. TOMPKINS executors of JAMES TOMPKINS, deceased, and JOHN W. TOMPKINS, Edgefield district, S. C.—*Tanning.*—October 24, 1865.—This invention consists in the use of pine leaf, separately or in combination with oak or hemlock bark, or any other substance containing tannin. The leaves may be taken in a green state and put in a vat of water, and steam may be turned into said vat until the liquor acquires the proper density, or they may be ground in a mill and cured, after which they may be packed away for use.

Claim.—The use of the pine leaf, in the form of a watery extract or decoction, in the process of tanning, either separately or combined with the bark or other tanning material, in the manner described and for the purpose specified.

No. 50,663.—SAMUEL C. SHAW, assignor to himself, F. O. KENDALL, and F. A. MARSHALL, Marlboro', Mass.—*Paper Collar.*—October 24, 1865.—In this invention the lower part of the collar is stained throughout its length in imitation of a cravat. The collar may or may not have its front parts united by means of slots, into which the parts catch, the extremities thereof passing the point of junction, in imitation of a tie.

Claim.—As an improved manufacture, a paper collar made with the imitation of a cravat

printed or formed on it, substantially as specified, or with the same and the two parts of the bow thereof projecting from the opposite ends of the collar, and provided with the locking slits, as set forth.

No. 50,664.—GEORGE G. SMALL, assignor to himself and CHARLES H. DRUMMOND, New York, N. Y.—*Folding Table.*—October 24, 1865.—This invention consists in making the column that supports the table in two parts, so that it can be extended, and the central part of the top of the table is so hinged that it will fall below the top, and be folded compactly when the two parts of the column are brought together.

Claim.—So constructing and arranging a table top for tables that it can be increased or decreased in size by folding its central portion below the same, substantially as herein described.

No. 50,665.—CHARLES H. THOMAS, assignor to himself and HERMON THOMAS, Milton, N. Y.—*Cider Press.*—October 24, 1865.—This invention consists in providing in a cider press a stationary screw in the centre of the platform, around which is built up the cheese, the latter being held in place by sacking cloth cut in the form of a circle, with a hole for the screw to pass through in the centre, and a slit from the centre hole to the outside. The whole is mounted on wheels, so that it can be easily moved from one place to another.

Claim.—First, a cider press, consisting of the platform A mounted on wheels, and provided with the stationary screw B and nut C, arranged and operating as and for the purpose set forth.

Second, in combination with a press constructed as described, the use of the sacking, as and for the purpose set forth.

No. 50,666.—J. T. WARREN, assignor to himself and ROBERT A. CHESEBROUGH, Stafford, N. Y.—*Rotary Engine.*—October 24, 1865.—This invention consists in a combination and arrangement of partition valves, steam port, exhaust port, and piston.

Claim.—The partition plate or valve D, combined and arranged with reference to the steam port C, the exhaust port F, and the piston B, substantially upon the principle and in the manner herein set forth.

No. 50,667.—DANIEL WELCH and WILLIAM W. ARMINGTON, assignors to GEORGE E. MITCHELL, Lowell, Mass.—*Handsaw.*—October 24, 1865.—The object of this invention is to cheaply and securely attach handsaws to their handles, and it consists in making a slot in the handle to receive the saw at right angles, to which are attached two stout metal pins. A notch is filed at the rear end of the saw which fits on the pin, and another notch is filed on the under edge of the saw to fit on the other pin, when a sliding sleeve is brought forward resting on the saw blade at both its edges, thus holding the saw firmly in position and also to the handle.

Claim.—The combination and arrangement of the collar *c*, the recesses *a b*, and the pins *e f* with the socket *c* of the handle A, and with the shank *d* of the saw blade or tool B, the whole being substantially as and for the purpose as hereinbefore described.

No. 50,668.—ANASTASIE A. FOUBERT, St. Helier, England, and JEAN GUSTAVE BÈQUET, Paris, France.—*Apparatus for Rectifying Alcohol.*—October 24, 1865.—This invention consists in so arranging the analyzing column that the foul vapors which are first given off are made to pass through a different condenser. It also consists in the arrangement of diaphragms, valves, &c., for effecting this object.

Claim.—First, the plate or diaphragm A, Fig. 1, sheet 2, allowing the direction of the alcoholic vapors to be changed whenever required, and at the beginning and end of each charge operated upon substantially as described, and for the purposes set forth.

Second, the slide valve V, and clack valve S, on one valve rod T, Fig. 11, sheet 2, by which the ports of the diaphragm A are opened, and the pipe H is shut, or vice versa, at one operation, for the purposes set forth.

Third, the primary condensers P′ and O, Fig. 2, sheet 2 and sheet 1, substantially as described.

Fourth. the self-acting regulator, sheet 3, for controlling the feed of steam to the retort, in combination with the chamber or recipient A2, in which hot water is made to circulate, in order to prevent the alcoholic vapors from condensing, substantially as described, and for the purposes set forth.

Fifth, the indicator G, sheet 1, which takes its supply of steam at the first bell plate of the column B, below the diaphragm A, by means of a cock *g*, substantially as set forth.

Sixth, the cooling condenser E E′, Fig. 3, sheet 2, the worm of said condenser being divided in two portions at the fifth coil, for the purposes set forth, and in the manner herein described.

No. 50,669.—PROSPER MALAPERT, Poitiers, France, and EDWARD A. DES COURTIS, New York, N. Y.—*Egg Boiler.*—October 24, 1865.—In the handle, or at any convenient point in an egg boiler constructed with a metallic diaphragm to hold eggs, is fitted a thermometer to indicate the temperature of the water.

Claim.—The application of a thermometer to an egg boiler for the purpose of indicating the temperature of the water, as herein specified.

No. 50,670.—JOHANN VON DER POPPENBURG, Birmingham, England.—*Breech-loading Fire-arm.*—October 24, 1865; patented in England February 14, 1865.—In this invention a hinged breech block containing the chamber, and opening laterally and forward, has a spiral spring within the hinge for throwing the chamber open when its latch or bolt is released. The hammer, which may be a needle, or a longitudinal spiral rod, is cocked by drawing back a tubular sheath, which, on being returned, compresses the spiral hammer spring, and also securely latches the hinged breech.

Claim.—First, the construction of the spring hinge of the movable charge chamber, hereinbefore described, and illustrated in the accompanying drawings.

Second, the arrangement and combination of the parts described and represented for bolting down the charge chamber during the discharge of the gun.

Third, the construction of the snap bolt described and represented for holding the charge chamber in its place when shut down, as well as for assisting in bolting down the charge chamber for discharge; also the arrangement of parts for working the said snap bolt.

No. 50,671.—BENJAMIN F. ALEXANDER, Glen Hope, Penn.—*Machine for Pressing Beefsteak, Paring Apples, and Sharpening Knives.*—October 31, 1865.—This invention consists in combining in one machine devices by which beefsteak may be made tender, apples pared, and knives sharpened.

Claim.—The combined machine consisting of an apple-parer, steak-tenderer, and knife-sharpener, arranged, constructed and described as represented.

No. 50,672.—ALFRED ARNEMAN, Guttenberg, Iowa.—*Cutter Sleigh.*—October 31, 1865.—The sleigh is constructed with two pair of disconnected runners, the rear ones being higher than the front ones, thus elevating the seat in the back part of the sleigh, and protecting the driver from the drifting snow. The front runners are attached to a cross beam, which is swiveled to the sleigh body.

Claim.—The combination of two pairs of S-shaped runners of different heights with a sleigh, the body of which is constructed of the form substantially as described.

No. 50,673.—HENRY ASCHENBACH, Washington, D. C.—*Buckle.*—October 31, 1865.—This invention consists of a buckle constructed with a convexed portion, and pivoted loop, which has a holding bar formed on it, so as to bind upon the strap.

Claim.—The buckle substantially as herein described, to wit: constructed with a convex portion *a*, and with a pivoted loop B, which has a holding bar *p* formed on it, so as to bind upon the strap as shown, all substantially as described, and for the purpose set forth.

No. 50,674.—KATE E. ASHLEY, Williamsburg, N. Y.—*Stand for Preserve Jars.*—October 31, 1865.—This invention consists of two metallic disks connected together by uprights, and provided with apertures large enough to contain the largest jars used in preserving. The upper disk is provided with eccentrics, by means of which jars smaller than the apertures may be held in position. The jars are supported on wooden strips.

Claim.—First, the stand A composed of one or more disks, or their equivalents, capable of supporting the jars while the latter are introduced in or lifted from the vessel containing boiling water, substantially as and for the purpose set forth.

Second, making the holes *e* in the disk *a* adjustable by cams *f*, or their equivalents, substantially as and for the purpose described.

No. 50,675.—JOHN A. BASSETT, Salem, Mass.—*Apparatus for Carburetting Air.*—October 31, 1865.—This invention consists of a vessel containing a set of revolving perforated fans. The air to be carburetted is forced into a regulator before entering the carburetter. The regulator consists of an inverted vessel working in an annular space filled with water. At the top of the vessel is a valve so arranged as to allow the air to escape from said vessel when it is filled with air.

Claim.—First, the impregnation of air or gases with the vapor of a hydro-carbon evolved from the surfaces of the perforated fans partially immersed in the hydro-carbon, and operated in the manner substantially as shown and specified.

Second, the use of an air-holder, either at a distance from or connected with a gas generator, when used in combination with the valve as described.

No. 50,676.—DAVID BEARLY, New Castle, Ind.—*Attaching Cross Saws to their Handles.*—October 31, 1865.—This invention consists in forming the socket, which is screwed fast to the ends of the saw, of thin metal, and having a hinged joint at its central point so that it can be opened to receive the handle, which has a knob turned on its lower end, and larger in diameter than where the socket embraces it.

Claim.—The construction of the hinged fastening B, in combination with the knob G, as herein described, and for the purposes set forth.

No. 50,677.—WILLIAM H. BENNETT, Utica, N. Y.—*Cutter for Barrel Heads.*—October 31, 1865.—This invention consists of a slotted bar turned up at one end to form a handle; at the other a rod goes through the bar forming the handle above, and extending below as a

pivot centre. The tool for cutting is attached to the bar by means of a shank passing through the slot, and made adjustable by means of screws, and is operated by standing the tool on the pivot and knife, and revolving one end around the pivot, bringing the V-shaped knife in contact with the wood and cutting the head in a circle.

Claim.—An improved hand tool for making barrel heads, consisting of the working bar B, central pivot C, adjustable cutter F, and gauge E, the said parts being combined and operating substantially as herein described.

No. 50.678.—JOHN Q. BIRKEY, Philadelphia, Penn.—*Gas Heater.*—October 31, 1865.—In the top of an iron casing, generally made square, is let the flange of a tube in the form of an inverted truncated cone; a little beneath it, and directly in a line with its centre, is a gas-burner; on top of the casing are projections on which culinary vessels may be placed. On the larger base of the cone is a perforated disk, and when desired another cone of like form may be screwed by its larger base to the upper part of the first cone.

Claim.—First, the combination of the hollow, inverted, truncated cone B, the wire gauze or perforated plate P, and a suitable tip G, the whole being arranged substantially as and for the purpose herein set forth.

Second, in combination with the above, the concentrating tube H, for the purpose specified.

No. 50,679.—A. T. BLEYLEY, Ottumwa, Iowa.—*Vegetable Cutter.*—October 31, 1865.—This invention consists of a cylinder with knives arranged obliquely upon its surface, with openings in the periphery for the cut material to pass into the cylinder. The cylinder is arranged within a suitable box, with an opening to receive the vegetables. The cylinder is rotated by a vertical shaft with suitable gearing in a frame that can be adjusted.

Claim.—The vegetable cutter, arranged and operating substantially as shown in the drawings and herein described.

No. 50,680.—GEORGE W. BOLLMAN and WILLIAM NEEMES, Pittsburg, Penn.—*Making Chilled Castings.*—October 31, 1865.—This invention consists in surrounding a thin metal mould, for casting rollers and other heavy castings, with an outer shell, between which and the mould cold water is passed, in order to carry off the heat, so as to prevent the mould from expanding away from the shell, first formed around the casting by the chill.

Claim.—The use of thin metallic moulds or chills, for making chilled rolls, shafting, and other large castings, when the exterior of the chill in which the casting is formed is surrounded with cold water for the purpose of abstracting the heat from the surface of the roll, thus preventing the warping of the chill, and of chilling the casting from the surface more rapidly and to a greater depth, a constant stream of cold water being applied to take the place of that which, having become heated, is allowed to escape, in the manner substantially as hereinbefore described.

No. 50,681.—CHARLES B. BOYLE, New York, N. Y.—*Photographic Lens.*—October 31, 1865; antedated October 25, 1865.—This invention consists in constructing the lens of three pieces of glass, the two front pieces forming an achromatic meniscus of flint and crown glass, the third glass being so constructed and placed as to correct the distortion of the two in front.

Claim.—Constructing a photographic lens of three pieces of glass, as described in the specifications and laid down in the drawings.

Also, the mode herein described, of flattening or bending back the focal plane of the photographic lens, by plushing the chromatic dispersion of the flint glass over that of its associate crown-glass lens.

No. 50,682.—EDWIN BROWN, Leominster, Mass.—*Attaching Traces to Whiffletrees of Vehicles.*—October 31, 1865.—This invention consists in inserting in each end of the whiffletree lengthwise a sliding spring bolt, moving in suitable gearings, so that the traces can be simultaneously and instantly unfastened at pleasure.

Claim.—As a new article of manufacture, spring bolts for attaching to and detaching traces from whiffletrees, arranged within a casing which is provided with bearings and a protecting cap for operation, substantially as shown and described.

No. 50,683.—ANDREW BUCHANAN, Brooklyn, N. Y.—*Quartz Crusher.*—October 31, 1865.—The invention consists in the employment of two crushing segments, their faces working together by being pivoted at their centre of motion, and near their reeriphery are attached by a wrist pin to a lever which is pivoted to one of the segments, and turns upon the same centre with it, the wrist pin working in slots through the lever, which, when oscillated by proper means, also oscillates the crushing segments or jaws.

Claim.—First, the employment of two segments C, with curved crushing faces, either plain or corrugated, in combination with a mechanism for imparting to the same an oscillating motion, substantially as and for the purpose set forth.

Second, the oscillating lever D, in combination with the segment C, constructed and operating substantially as and for the purpose described.

No. 50,684.—THOMAS J. BURKE and S. B. GASSETTE, Chicago, Ill.—*Churn.*—October 31, 1865.—This invention consists in the combination and arrangement of the frame, pulleys, and dashers, operated by a cord placed over said pulleys, and having motion imparted to it through the medium of a crank: the dashers are composed of swinging vertical blades pierced through their entire lengths.

Claim.—First, the combination of the frame G and D with the standards I and crane B, as set forth.

Second, the combination of the flange F with the barrel of the churn A, as set forth.

Third, the combination of the dashers N with the arms N, all substantially as described and for the purposes set forth.

No. 50,685.—A. F. CARLING and L. ROCKWELL, Ellenville, N. Y.—*Combined Coal Scuttle and Ash Screen.*—October 31, 1865.—This invention consists in combining with a coal scuttle, a cylindrical oscillating screen and an ash receptacle, arranged in such a manner that ashes may be readily screened with the greatest facility, without allowing the dust to escape from the device, and the cinders discharged into the scuttle compartment from the screen, so that they may be thrown upon the fire from the scuttle.

Claim.—The combination of the cylindrical screen E with a coal scuttle A, provided with a partition plate B, having doors C C′, and all arranged substantially as and for the purpose specified.

No. 50,686.—JOHN CLARY and ELIJAH B. TORREY, Ithaca, N. Y.—*Filter for Artesian Wells.*—October 31, 1865.—This invention consists of a close fitting coil of wire around the lower or perforated section of an artesian well tube to prevent the entrance thereinto of dirt, sand, gravel, or other extraneous matter.

Claim.—The filtering jacket or enclosing coil which surrounds the lower section of the well or pump tube, forming a strainer for that portion into which the water enters, substantially as described.

No. 50,687.—JOSIAH A. CLIPPINGER, Newton, Iowa.—*Mechanical Movement.*—October 31, 1865.—The object of this invention is to equalize the force of a spring under tension in such a manner that it can be practically employed as a motive power for light machinery.

Claim.—First, the employment of the self-adjusting friction brake, or its equivalent, in combination with a train of wheels and a spring, substantially as and for the purpose set forth.

Second, so constructing a friction brake that its action will be controlled automatically, and its resistance diminished in proportion as the force of the power exerted by the spring to be overcome diminishes, substantially as described.

Third, the combination of a driving wheel D, which is adapted to serve as a crank wheel for winding up the spring C, with the adjustable pinion E′, and a train of wheels, substantially as and for the purpose set forth.

Fourth, arranging the shafts of the wheels D and G, so as to operate at right angles to each other, when these parts are operated by springs and controlled by a brake, substantially as described.

No. 50,688.—JOSEPH COGAN, Boston, Mass.—*Strap Ring or Clamp.*—October 31, 1865.—This invention consists in constructing the eye of the ring with clamp plates, the inner surface of which is provided with spurs, so that by hammering the plates on the end of the strap placed between them, the strap is securely fastened to the ring, without the necessity of rivets.

Claim.—A halter, or strap ring, or clamp, in which the strap is confined between clamping surfaces or plates, substantially as and for the purposes described.

No. 50,689.—WILLIAM W. COOPER, Washington, D. C.—*Gauging and Ullaging Casks.*—October 31, 1865.—This invention will be understood by reference to the claim and drawing.

Claim.—First, an instrument, constructed substantially as herein described, for gauging or determining the capacities and interior dimensions of casks, by the combined use of one or more diagonal angles with linear measures of the cask diagonal.

Second, in connection with the process of gauging, the invention as herein described of a scale adapted to casks of all sizes, for ascertaining by inspection the percentage wanting in any given cask that may not be full; in particular the application of the said scale to the outer surface of a tube, in which case the scale, taking a spiral arrangement, may be applied inside of the cask.

Third, as a necessary adjunct for the angular measurements peculiar to my system of cask gauging, the invention of the implement described and shown, for use in the bungs of casks.

No. 50,690.—THOMAS CRANE, Fort Atkinson, Wis.—*Stump Extractor.*—October 31, 1865.—By lifting one leg of a tripod lifting frame, placed over a stump, and attached to the stump from its centre, by means of pulleys and ropes, the strain on the legs is brought nearly to a line with their length, and a great direct lifting power is obtained.

Claim.—First, the combination of the tripod lifting frame G G F, triangular base A, and windlass D, operating substantially as described.

Second, sustaining the lower end of the lifting beam F, upon a rope or chain *c* of the windlass D, substantially as described.

Third, the combination of the pulley E, draught rope *a*, windlass D, stirrup chair *c*, and the lifting beam F of the tripod, substantially as described.

No. 50,691.—A. F. CUSHMAN, Hartford, Conn.—*Scroll Chuck.*—October 31, 1865.—This invention consists in making the jaws of an L-shaped form, or nearly so, so as to form the teeth which engage with the scroll in line with the centre of the bearing with the jaws in order to give a true and steady bearing.

Claim.—The combination of the head A, with its disk D and scroll collar C, with the jaws *c*, the latter provided on its outer surface with teeth which engage the scroll of the collar, as described and represented.

No. 50,692.—EDWARD A. DANA, Brookline, Mass.—*Sabot for Projectiles.*—October 31, 1865.—In this invention the projectile is made tapering at its rear end and has a cylindrical extension at its base on which the soft metal packing or sabot is fitted; the sabot is cup-shaped for wedging up on the rear taper of the projectile, and with an opening through its bottom to allow it to be slipped upon the rear projection of the projectile when the same is to be used, while a groove, cut around the tapering rear of the projectile, serves to secure it firmly in place when driven forward by the action of the charge in the gun.

Claim.—First, the combination of a shot or shell, the hinder part of which is shaped as above described, viz, with a sloping or wedge-shaped portion C, and also with a straight or cylindrical portion D, of less diameter than the body of the shot, with a rifling cup or packing of softer material adapted thereto but cast separately therefrom, which can be detached for the purpose of storage or transportation and placed on the projectile when wanted for use, the whole of which is driven forward on the shot when the gun is fired.

Second, in combination with the above the circular groove B, on the rear part of the projectile, this groove being so placed that the metal of the rifling cup may be driven into it by the discharge of the gun.

No. 50,693.—JOHN S. DAVIS, Tiffin, Ohio.—*Harvester.*—October 31, 1865.—The drag bar or frame is suspended directly from the main drive-wheel axle, and has perforated arms cast upon it projecting forward of the axle, to which an adjustable standard, forming the seat and tongue frame, is attached in such a manner as to admit of its adjustment to adapt the weight of the attendant to the proper balancing of the weight of the drag frame on the axle. A second frame is hinged to this drag frame so that its axis of motion is at right angles to that of the drag frame, and in line with the path of the machine, and has the pinion or crank shaft secured thereto in such a manner that its centre of vibration, as also that of said secondary frame, will be coincident with the centre of rotation of the intermediate shaft on the drag frame. The shoe is hinged at its heel to the rear end of the said secondary frame, while the point of the shoe may be adjusted at any desired degree of elevation by means of a slotted lug thereon, and a lug and set screw on the frame, or it may be left free to conform to the ground. The pressure of the point of the shoe on the ground is regulated by a strap spring on the shoe and an adjusting screw on the said secondary frame.

Claim.—First, the construction and arrangement of the drag bar A A′ and the standard B, for the purpose of balancing the machine upon the axle, substantially in the manner and for the purpose set forth.

Second, the gearing P H J J′, in combination with the drag bar A A′ and frame F F′, for working the cutters and allowing the finger beam to rise and fall, substantially as specified.

Third, the frame F F′, constructed as set forth, and hinged to the shoe and drag bar, substantially in the manner described.

Fourth, the construction and arrangement of the shoe G, substantially as and for the purpose set forth.

Fifth, the spring *t*, in combination with the hinged shoe G, constructed and arranged in the manner and for the purpose set forth.

No. 50,694.—LESTER DAY and HENRY CHAPMAN, Buffalo, N. Y.—*Barrel for Holding Petroleum.*—October 31, 1865.—This invention consists in constructing a metallic barrel, in a bilge barrel form, said barrel being formed with a flange at each end. This metallic barrel is enclosed in a barrel made of wood, the flange fitting in the joint between the head and staves of the barrel. A space is left between the two barrels in order that the hoops may be driven on the other barrel without injuring the inner barrel.

Claim.—A combined metal and wood barrel, made in a bilge barrel form, the metal part having a flange or rim K′ formed thereon, which, with the wood head, enters the crozing of the wood barrel, for the purposes and substantially as described.

No. 50,695.—BENJ. R. DORWART, Lancaster, Penn.—*Reciprocating Crank Motion.*—October 31, 1865.—The object of this invention is to increase the stroke over and beyond the

length of the cylinder employed by the increase of leverage, and thereby render an increase of force available; it consists in the combination of a cross-slotted head or disk, with its prolonged arm, double-ended crank, lugs, and also in the combination of three lever arms, with a short side arm and rod; also in the combination of the rod with the lever, prolonged arm, and the disk or slotted cross-head.

Claim.—First, the cross-slotted head or disk D with the prolonged arm D A, in combination with a double-ended crank C and lugs S S and S2, constructed and operating substantially in the manner and for the purpose specified.

Second, the lever arm L′, with its short side arm L, in combination with the connecting rod C R, constructed and operated substantially as and for the purpose specified.

Third, the rod L A, in combination with the lever L and prolonged arm D A of the disk or slotted cross-head D, arranged in the manner and for the purpose specified.

No. 50,696.—JOHN P. DRIVER, Marengo, Iowa.—*Case for Enclosing Stoves.*—October 31, 1865.—This invention consists in enclosing cooking and other stoves within a double-walled case, fitted with air-conducting pipes for the purpose of carrying off the heat, as desired, other pipes carrying off fumes of cooking to the exit flue.

Claim.—First, enclosing cooking and other stoves within a double-walled case, fitted with air-conducting pipes, for the purpose of carrying off the heat of such stoves, substantially as and for the purposes shown.

Second, the provision in the above described double-walled case of the passages *c c*, for conveying off the fumes made by cooking, as herein described.

No. 50,697.—HENRY D. DUNBAR, Springfield, Mass.—*Metallic Packing for Steam Pistons.*—October 31, 1865.—The object of this invention is to introduce a metallic packing for pistons of steam engines which shall be susceptible of fitting all the irregularities of the bore of the steam cylinder and not subject to an undue or more friction than that necessary to a steam-tight joint. Its novelty consists in the combination of a segmental packing ring with a spring placed between two contiguous ends of the segments; also in combination with the segmental packing ring an L-shaped plate which covers the joint, and a link, with the packing ring, the arrangement of the parts by which to vary the relative areas of the frictional surface and steam pressure surface of the segmental packing ring, and a slot, with its stop or pin, whereby to allow a limited circular motion of said ring.

Claim.—First, the segmental packing ring C, in combination with a spring or equivalent, placed between two contiguous ends of the segments, for the purpose set forth.

Second, in combination with the segmental packing ring C the L-shaped plate *d*, to cover the joints, substantially as described.

Third, the link F, in combination with the packing ring C, substantially as described.

Fourth, the arrangement of the parts by which to vary the relative areas of the frictional surface and steam pressure surface of the segmental packing ring *c*, for the purpose of regulating and reducing the effect of such pressure to the lowest point consistent with the proper action of the packing ring, substantially as described.

Fifth, in combination with the elastic packing ring of a steam piston head the stop *p*, with its stop or pin, for the purpose of allowing a limited circular motion of said ring, substantially as described.

No. 50,698.—CHARLES D. EVERETT, Cleveland, Ohio.—*Railway Bag Receiver.*—October 31, 1865.—This invention consists in an automatic arrangement of devices connected to the frame or door of a railroad car, to clutch and retain a mail bag, placed at any station to be transmitted; the mail bag coming in contact with a spring upon the receiver causes it to suddenly close and retain the bag, and then swing inward to the car.

Claim.—First, pivoting the arms B and D together and hinging the same to the side or door frame of the car, substantially as and for the purpose specified.

Second, automatically taking off from mail stations on railroads the mail bag, and conveying the same to the mail car while the train is in motion, substantially as set forth.

Third, the arms B and D, the spring H, the lever *g* and spring *h*, or their equivalents, arranged substantially as and for the purpose described.

Fourth, the brace P and spring *n*, in combination with the arms B and D, substantially as and for the purpose set forth.

No. 50,699.—LYSANDER FLAGG and GEORGE D. BRIGGS, Pawtucket, R. I.—*Toy Watch.*—October 31, 1865.—This invention consists in the employment of mica in place of glass, as a covering of a toy watch, clock, or other article in which a dial is used, covered with some transparent material; also in the use of points punched out of the flange or plate which supports the dial and its transparent covering, and turned up and over the edge of said dial and covering in such a manner that when these points are punched out and turned up the dial and its covering can be readily adjusted in their places, and by the simple operation of turning these points down the dial and its covering are secured in their places without requiring an extra ring or an increased amount of stock, and at a trifling expense of time and labor.

Claim.—The toy watch herein described, consisting of the case A, back *a*, dial *b*, mica covering *c*, and retaining lips *d*, all constructed and combined as specified.

No. 50,700.—GEORGE H. FOX, Boston, Mass.—*Shaft Coupling.*—October 31, 1865.—The ends of the shafts are made tapering and are introduced into a hollow tubular coupling, in which they are securely held by keys passing through a mortise through the centre of the coupling and the end of each shaft.

Claim.—The coupling, constructed substantially as described, that is to say, with the central and elongated keyhole in the coupling and the central keyholes in the shafts, the shaft ends being made of tapering form and the keys wedge-shaped, as specified.

No. 50,701.—LUCAS FREY and JOHN HAHN, Chicago, Ill.—*Scrubbing Brush, Mop, and Wringer.*—October 31, 1865.—This invention consists in the combination of a brush, mop cloth, and rollers, for wringing the cloth

Claim.—The combination of the scrubbing brush M, rollers D E, mop C, and wiper L, arranged and operating substantially as specified.

No. 50,702.—STEPHEN F. GATES, Boston, Mass.—*Feathering Paddle Wheel.*—October 31, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The construction of a paddle wheel by which its floats are feathered by means of a motor, independent in its action from the motor by which the wheel is rotated.

No. 50,703.—ALEXANDER W. HALL, New York, N. Y.—*Ore Crusher.*—October 31, 1865.—The battery of a stamping mill is furnished with an air-tight cover which converts it into an air-tight chamber into which one or more blasts of air are forced by suitable means to blow the fine particles, as fast as pulverized, through one or more outlets into a suitable receiver.

Claim.—A stamping mill, having an air-tight battery into which air is forced or drawn through one or more inlets, and from which the pulverized material is carried with the eseaping air to a suitable receiver, substantially as and for the purpose specified.

No. 50,704.—DANIEL HALL, Pittsburg, Penn.—*Mills for Rolling Iron and Steel.*—October 31, 1865.—This invention consists in the arrangement of one set of housings, two pairs of rolls, in combination with devices for guiding the rod or bar from one set to the other, so that such articles as are rolled to a great length may be operated on at different points and at the same time.

Claim.—First, the use in one set of housings of two pairs of rolls, arranged with their axes all in the same vertical plane, the upper pair being geared together so as to pass the iron or steel through between them in one direction, and the lower pair being geared together so as to pass the iron or steel through between them in the opposite direction, for the purpose of enabling a continuous strip or band of metal to be passed backwards and forwards between the rolls, and thus operated upon at several points at the same time, and for other purposes herein set forth.

Second, the combination of the guide roller *v* and adjustable guide *w* and curved guide box *z* with one or more pairs of rolls, in the manner and for the purposes hereinbefore set forth.

No. 50,705.—A. M. HANSEN, Stockton, Cal.—*Wind Wheel.*—October 31, 1865.—This invention consists of a wheel, having its vanes pivoted at their outer edges to the periphery and to the hub at one side of each vane, and at the other side to a ring, having no other connection than with the vanes; this ring is pressed to a position in which the vanes are closed by an elliptical spring, against the tension of which the wind must act to open the vanes and modify the force of the wind.

Claim.—The combination and arrangement of G, C, and R, for the purpose as herein described.

No. 50,706.—CHARLES B. HATFIELD, Boston, Mass.—*Buckle.*—October 31, 1865.—This invention is composed of two plates hinged together, and so formed that one has a tongue to extend into a recess made in the other, the part from which the tongue projects having a slot to receive the strap when passed through the buckles.

Claim.—The improved buckle, made substantially as described, viz: of the two plates A B, hinged together, and formed with the tongue *a*, and the recess *b*, and the slot *d*, arranged as specified.

No. 50,707.—AARON HIGLEY, South Bend, Ind.—*Carriage Jack.*—October 31, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The forked arm E, pivoted to the plates F, resting and turning upon the shoulder *g* and the lever B, when jointed to and constructed with the pedestal A, arranged so as to operate conjointly in the manner and for the purpose specified.

No. 50,708.—WILLIAM H. H. HINDS, Groton, Mass.—*Candlestick.*—October 31, 1865.—This invention consists of two pieces of metal, made to close together around the flame or below the same to regulate the air supply below.

Claim.—The hand regulator I I, for the purpose set forth.

No. 50,709.—HENRY HORSFALL, New York, N. Y.—*Annunciator.*—October 31, 1865.—This invention consists of a crank arm attached to the centre of a lever, acted upon by the wire, said crank arm carrying a pendulum in front of the face of the annunciator, and by its vibration denoting the wire acted upon and the number of the room.

Claim.—First, the stand or pillar affixed to the lever *c*, and projecting through the face, in combination with the pendulum that hangs in front of said face, for the purposes and as specified.

Second, the arm 5 at the end of the rock shaft *i*, connected to the slide *k*, in which is the dog *f*, in combination with the hammer *t* and bell *m*, as and for the purposes set forth.

Third, the toes on the slides *f f*, in combination with the rock shaft *i* and mechanism connecting with the bell, said toes acting against the rock shaft to move the same as set forth.

No. 50,710.—WILLIAM WHEELER HUBBELL, Philadelphia, Penn.—*Oil Ejector.*—October 31, 1865.—This invention consists of an inverted cup, with a conical bottom, for the purpose of deflecting the air up around the central pipe, which is arranged centrally over the cup, and has a curved or contracted outlet for the purpose of aiding the proper deflection of the air. This arrangement is used within an enlarged case, placed below the cup, and supported upon braces which connect the cup with the case. To insure a constant flow of the oil up through the enlarged case, a tube is attached to the braces which support and connect the cup and case, which prevents the bottom of the case from coming in contact with the bottom of the wall, and leaves the passages always open. The enlarged case also contains a separator for directing the gas up outside of the cup, and separating it from the oil at this point.

Claim.—First, the inverted coned cup or deflector, with its cone opposite the mouth of the air tube and within the case *r' r''*, as and for the purpose described.

Second, the coned mouth *c* of the air tube inside of the inverted cup to assist the air to sweep around from a descending to an ascending column in the cup, as described.

Third, the open mouth of the vertical air tube, discharging downward, and coned or otherwise opposite the base of the cup, with its sides *f f* extending up around the end of the air tube, to discharge the air down into the cup in a solid column and discharge it upward in an annular column inside of the oil or outer case, for the purpose as described.

Fourth, the enlarged case *r'*, with the channel *l*, around and above the inverted cup, in combination with the air tube and the annular space *o* around it, formed by the contracted case *r*, with its statical resistance over the air current of the cup, to supply and force up the oil, as described.

Fifth, the gas and oil separator and accelerator 8 8 inside of the case *r' r'*, and operating as described.

Sixth, the hollow foot 4, to support the ejector and allow the oil to enter its base, as described.

Seventh, the air tube and flowing tube side by side in the well, with a double bend at the parts *t* and *p*, Fig. 2, and the air tube entering the flowing tube to a concentric position over the inverted cup, for the purposes and as described.

Eighth, the braces *g* placed below the inverted cup to support it to resist the great force of air exerted on it, and allow the air to descend and pass out of it again in solid columns, as described.

Ninth, the combination of the accelerating surface *j j*, the enlarged case *r' r'*, the inverted cup, and the air tube, with the annular space *o o*, formed over the cup, to accelerate the oil and gas from the enlarged case to the space *o*, aided by the air from the tube and cup, as described.

No. 50,711.—WILLIAM WHEELER HUBBELL, Philadelphia, Penn.—*Incendiary Shell.*—October 31, 1865.—In this invention the interior chamber designed for containing the incendiary composition consists of a wrought iron tube of suitable size, upon which the outer shell is cast. The explosive charge of the shell surrounds the tubular wrought-iron chamber, and the latter contains splints of wood of the length of the chamber, surrounded with quick match, and dipped in melted sulphur, with a central place left to be filled with gunpowder. The shell is first exploded by the exterior charge, after which the incendiary materials are scattered by the central charge.

Claim.—First, casting the cast-iron of the shell on to a wrought iron tube, to form an inner and outer chamber, separable when the explosion occurs, as and for the purpose described.

Second, the composition or filling of wood, quickmatch, sulphur, and meal or gunpowder in the inner chamber of wrought iron, constructed and applied as described.

Third, the firing chamber of gunpowder *q*, surrounded by the burning composition for ignition, as described.

Fourth, the quickmatch and sulphur prepared and used in the inner chamber, or in any equivalent manner in the explosive shell within a wrought-iron chamber, as described.

Fifth, the combination of the exploding or gunpowder chamber H H with or around the firing chamber of wrought iron, constructed and secured as described, so as to combine the explosive destructive effect with the firing or suffocating effect in a practical manner, as set forth.

No. 50,712.—R. B. HUGUNIN, Cleveland, Ohio.—*Covers for Rollers of Washing Machines.*—October 31, 1865.—This invention consists in combining cloth, rubber, and other like substances, so as to create a covering for slotted rollers for washing, wringing muslins, &c.; the cloth used in wringing is secured within the shaft, thus preventing the covering from turning, and giving to it a uniform and steady support.

Claim.—The rubber or other non-absorbent, cloth-supported coverings A A A, &c., Figs. 1, 2, and 4, &c., whether made or vulcanized directly upon the shaft as described. or separately, and afterwards applied to the shaft, substantially as and for the purpose specified.

No. 50,713.—PLATT C. INGERSOLL, Green Point, N. Y.—*Bed Bottom.*—October 31, 1865.—This invention consists in a combination of wood and metal slats, arranged and secured longitudinally to the bedstead.

Claim.—The improved slat B, standards *a* and metallic strips *b*, as shown and for the purpose set forth.

No. 50,714.—FRITZ JACOB, New York, N. Y.—*Propeller.*—October 31, 1865.—This invention is designed as an improvement on a patent granted January 24, 1865, and consists in the application of fins formed by a prolongation of the rear side of each wing in such a manner that the propelling surface of said wings is increased, and that a propeller of the ordinary construction can be easily converted into a hollow wing propeller simply by securing to its blades the hollow wings either by rivets or any other suitable means.

Claim.—The combination of fins D with the hollow wings B of a screw propeller, substantially as and for the purpose set forth.

No. 50,715.—ALBERT JONES, Buffalo, N. Y.—*Hand Stamp.*—October 31, 1865.—Each of the two rollers on this stamp is provided with a ratchet wheel, one of which is operated upon and turned by a pawl on the lower part of the stamping arm. The pawl being on a pivot, can be set to operate either wheel. The changeable dating type is secured within the die by a rod passing through the die and catching into notches in the side of the type.

Claim.—First, the combination and arrangement with the inked ribbon and spools of the ratchet wheels G G′ and reversible pawl H, in the manner and for the purpose described.

Second, the combination of the mortised die *c*, notched dating type *c*2, and retaining rod *c*1, in the manner and for the purpose described.

Third, the double curved arm or bracket B B′, the one part stationary and the other movable, and carrying the die and ribbon spools, as described.

No. 50,716.—J. M. KELLOGG, Duquoin, Ill.—*Tire Shrinking Machine.*—October 31, 1865.—In this invention the tire is held edgewise, passing through a slot in both a stationary and movable jaw and backed up by a removable piece, the two surfaces of which are of different degrees of concavity, in order that by reversing its position it may suit tires of two different diameters. The tire is held in each jaw by means of a slotted wedge, so as to grasp it on both sides, and the movable jaw is forced up by a wedge.

Claim.—First, the construction of the immovable slotted jaws A, side abutment A′, slotted bed plate A3, and end abutment A2, in combination with a movable slotted jaw B, substantially as described.

Second, the combination with the subject-matter contained in the first claim of the hooked tenon *b*′ and tenon guide *b*, and wedge J, substantially as described.

Third, the combination of the movable back support G in the side abutment A and jaws A B, substantially as described.

Fourth, adapting the concave faced back support G to serve for tires of different diameters, substantially as described.

Fifth, the use of forked and wedged keys C C for securing the tires to the jaws A B, substantially as described.

No. 50,717.—W. KENDRICK, New York, N. Y.—*Furnace for Treating Ores.*—October 31, 1865.—The nature of this invention will be understood by reference to the claim and engraving.

Claim.—First, the arched base N or N* between the fireplace or fireplaces and the calcining or oxidizing chambers, substantially as and for the purpose set forth.

Second, the flues *j m n* or *j** *m** *n**, and dampers *k l* or *k** *l**, in combination with the chambers above and below the arched base N or N*, constructed and operating substantially as and for the purpose described.

Third, causing jets of steam and hot air to issue between the flames and the heated ores, substantially as and for the purpose specified.

Fourth, the arrangement of a partition wall *c* or *c** containing one or more water chambers *g* or *g** and one or more air chambers *h* or *h**, in combination with the fireplace or fireplaces and with the hearth or base on which the ore is placed, substantially as and for the purpose herein set forth.

Fifth, the water chambers *x* with jets *a*, in combination with the heated base N and fire flues *q*, constructed and operating substantially as and for the purpose described.

Sixth, the arrangement of the radiating flues *r* or *r**, in combination with the fire flues *q* or *q**, escape flues S or S*, and with a suitable suction blower, substantially as and for the purpose set forth.

Seventh, the annular air flue *b* in the furnace wall M, in combination with the radiating flues *r* and escape flue S, constructed and operating substantially as and for the purpose described.

Eighth, the arrangement of air flues *f*, in combination with the fire flues *q* or *q**, partition wall *c* or *c**, and with the hearth or base of the furnace, constructed and operating substantially as and for the purpose specified.

Ninth, the employment of one or more condensers Q, in combination with the escape flue S or S*, leading from the furnace and with a suitable suction blower, constructed and operating substantially as and for the purpose set forth.

No. 50,718.—W. KENDRICK, New York, N. Y.—*Reverberatory Furnace.*—October 31, 1865.—This invention consists in forming water chambers around the fire box with steam flues, so as to let steam into the fireplace; also another water chamber in the fire bridge, with a chamber to let steam pass in under the flame, with flues on the air chambers, with channels for the heaters to pass with the steam between the flame and the ore of the hearth. The products of combustion with the gases generated from the ore pass through an opening and are conducted at once to the escape flues, whence they are thrown back under the sole of the furnace by means of the flues and damper.

Claim.—First, the arrangement of one or more fireplaces on the same or opposite sides of the hearth Q, in combination with said hearth, and with one or more bridge walls *e*, containing steam and water channels, by which jets of steam and air can be thrown between the ore and the flames, substantially as and for the purpose described.

Second, the chamber *t* below the hearth, in combination with suitable fire flues, constructed and operating substantially as and for the purpose set forth.

Third, the flues *q x y z* and *a'*, in combination with the hearth Q, and with or without the chamber *t*, constructed and operating substantially as and for the purpose described.

Fourth, the arrangement of a suitable suction below, with or without a condenser, in combination with the escape flue S, and with the flues *r q* and *n* and hearth Q, constructed and operating substantially as and for the purpose set forth.

Fifth, the arrangement of air flues *g*, in combination with the fireplace or fireplaces *a'*, bridge wall *e*, and hearth Q, constructed and operating substantially as and for the purpose described.

No. 50,719.—S. E. KLEINSCHMIDT, Cleveland, Ohio.—*Lubricator.*—October 31, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—As an improved article of manufacture, an oil cup or lubricator, composed of feed cup A', faucet E, opening *d*, chamber or reservoir C, faucet E, and openings *h* and *g*, when the latter are extended by means of a tube *g'* to near the top of chamber for the passage of steam through it above the oil.

No. 50,720.—HOMER W. KNOWLTON, Saratoga Springs, N. Y.—*Snap Hook.*—October 31, 1865.—This invention consists in constructing the hook from a single piece of wire with a convolution and check loop in such a manner as to form a strong and durable hook suitable for all purposes to which said hooks are generally applied.

Claim.—The snap hook herein described, the same being composed of a single piece of wire and formed with the convolution A, and check loop *a*, substantially as and for the purpose set forth.

No. 50,721.—A. KOMP, New York, N. Y.—*Die for Curving Springs.*—October 31, 1865.—This invention consists in a method of curving springs such as are used for the purpose of strengthening or stiffening the brims of hats. Such springs are generally made of narrow strips of sheet-metal bent like a hoop; in order to accommodate them to the desired shape of the brim, they must be curved edgeways at those places which correspond to the side of the hat.

Claim.—First, a female die, with one or more longitudinal grooves wide enough to receive the wire to be curved, and with one or more cavities intended to receive the blade or blades or the pin or pins of the punch, substantially as and for the purpose set forth.

Second, a die with transverse grooves and one or more longitudinal grooves, wide enough to receive the wire to be curved, in combination with a suitable punch, constructed and operating substantially as and for the purpose described.

No. 50,722.—A. P. LIGHTHILL, Boston, Mass.—*Catarrhal Syringe.*—October 31, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The construction of the bulb *a*, elliptical or oval in its longitudinal and transverse sections; also the improved arrangements of the bulb and its stem, or the construction of the latter with the sudden bend at its junction with the bulb, whereby the axes of the bulb and stem are caused to be at, or nearly at, right angles to each other, as represented.

No. 50,723.—J. H. LENVILLE, Pittsburg, and JOHN L. PIPER, Altoona, Penn.—*Wrought-iron Bridge.*—October 31, 1865.—The claim and the engraving fully explain this invention.

Claim.—First, the use of posts for wrought-iron truss frames, having a curved or polygonal section composed of two or more plates of rolled or wrought iron, with flanged edges secured together by means of rivets passing through such flanges, and through ferrules interposed between them, to give any desired enlargement to the posts, and leave space for the passage of the counter braces without cutting away or weakening the posts, such posts being completed with bases and capitals of wrought or cast iron riveted thereto, substantially as and for the purposes hereinbefore described.

Second, the use of upper cords or compression beams, formed by a combination of L-shaped rolled beams or channel bars, or both, riveted at top and bottom to plates of wrought-iron, so as to form in each cord or beam a series of rectangular tubes or cells, for the purpose of affording great transverse strength to support the weight of passing trains in railroad or other bridges, combined with great resistance to compressive force, substantially as hereinbefore described.

Third, the use for the lower cords of truss frames of wide and thin rolled bars, with enlarged ends formed by upsetting the iron when heated by compression into moulds of the required shape, for the purpose of increasing the density, toughness, and strength of the eye of the rod, and enlarging the eye without diminishing its transverse section, substantially as hereinbefore described.

No. 50,724.—JOHN A. MCNIEL, Grand Rapids, Mich.—*Meat Pounder and Potato Masher.*—October 31, 1865.—This invention consists of a disk provided with circular straps or pieces of metal placed concentrically with each other and secured to a vertical stem by arms and cross-pieces. In the stem is pivoted a cam with a socket in which the handle is placed, which can be arranged by the disk to work vertically or horizontally.

Claim.—An instrument for pounding meat, mashing potatoes, working butter, &c., constructed substantially as herein shown and described.

No. 50,725.—R. M. MERRILL, Chicago, Ill.—*Lantern.*—October 31, 1865.—This invention consists in making the glass protector largest at the lower end, so as to facilitate its removal and also the connection between the lamp and the frame part by a rotary motion; and in combination with the foregoing, certain catches and springs are also used for the connection, and the wick regulator is operated by a shaft from below with a worm wheel.

Claim.—First, as an article of manufacture, the within-described lantern globe or protector, having its maximum diameter at its base or lower part, substantially as and for the purpose shown and described.

Second, the globe or protector B, in combination with the frame or casing of a lantern, and a device for holding it in position, substantially as shown anddescribed and for the purpose set forth.

Third, operating the connecting springs of a lantern by a partial rotary movement of one part of the same upon the other, substantially as shown and described and for the purpose set forth.

Fourth, in combination with a spring or springs secured to one part of a lantern the slots *h*, or their equivalents, on the other part, so that the two parts may be firmly locked together, or released from their connection by a partial rotary motion of one part upon the other, substantially as and for the purpose herein described and shown.

Fifth, attaching the burner to the lamp by means of a hinged collar *e*, or its equivalent, in such a manner that it can have no material lateral or rotary motion in its collar, substantially as shown and described, and for the purpose set forth.

Sixth, in combination with the burner D and regulator *f*, the worm wheel and its spindle, arranged and operating substantially as described and for the purpose set forth.

No. 50,726.—L. N. MYERS, Wilmington, Ohio.—*Sorghum Evaporator.*—October 31, 1865.—This invention consists of two or more evaporating pans, situated one above the other, and separated by a partition, perforated as shown. Between the bottom of the pan and the partition is a space communicating with the chimney. The chimney flue is controlled by a damper, and a side flue connects the aforesaid flue with the furnace.

Claim.—The application of the steam generated in the evaporation of sorghum and other juices, for imparting or assisting to produce a gentle heat, for finishing concentrated syrups, substantially as and for the purpose herein specified.

Also, the arrangement of a series of three or more evaporating pans, one over another, or otherwise, in a suitable and equivalent manner, so as to use the steam arising from the evaporation in one for heating another, in succession, the steam being applied either alone or in connection with other heat, applied in any way for the purpose herein set forth.

Also, the sheet metal perforated partition H, between the pans F and G, arranged and operating substantially as and for the purpose herein specified.

Also, the combined arrangement of the two chimney flues C D, situated respectively at the ends of the evaporator, and of the dampers connected therewith, substantially as herein described.

Also, the side flue I, with its damper *i*, connecting the furnace chamber A, and the heating chamber or chambers under the upper pan or pans, substantially as and for the purpose herein specified.

No. 50,727.—A. H. NEWTON, Worcester, Mass.—*Pepper Box.*—October 31, 1865.—This invention consists in placing a valve in the top of a pepper or spice box in such a way that the valve will open when the box is turned over for sprinkling its contents through the perforations in its cover, and be closed when the box is turned back again, thereby preventing such contents from losing strength by exposure to the air.

Claim.—The use of a valve beneath the top or cover of spice boxes and bottles to exclude air from their contents when in a state of rest, substantially as above described.

No. 50,728.—C. L. OLMSTEAD, Brooklyn, N. Y.—*Apparatus for Clasping Hoop Skirts.*—October 31, 1865.—This invention is designed as an improvement patented to J. Wilcox, December 9, 1862, and relates to the mechanism between the hopper and the clasping device, introducing a guiding needle and a transverse gate at the entrance to the grooved descending channel.

Claim.—The combination of the feeding plate of the hoop-clasping machine and needle, substantially as set forth.

Also, the combination of the feeding plate of the hoop-clasping machine and gate, substantially as set forth.

No. 50,729.—J. D. PARROT, Morristown, N. J.—*Rotary Harrow.*—October 31, 1865.—This invention consists in having a wheel attached to the rear end of the draught pole to bear against a wheel attached permanently to the harrow, the said wheel being provided with a central spindle which passes through an oblong slot in the draught pole, whereby the harrow, under the draught movement, is left free to rotate, and clear itself from obstructions.

Claim.—The wheel B attached permanently to the harrow and provided with a spindle C, which passes through an oblong slot *d* in the draught pole B, in connection with the wheel E, at the rear end of the draught pole, bearing against the fixed wheel B, substantially as and for the purpose herein set forth.

No. 50,730.—JOHN PEASE, Boston, Mass.—*Cartridge Box.*—October 31, 1865.—In this invention, the cartridge box is provided with a compartment or receptacle at the bottom, opening at the sides, and covered by protecting flaps, for the purpose of conveniently holding bullet patches, swabs or cloths, oil bottle, &c., and also with a cap pouch in front.

Claim.—The cartridge box A, provided with the pocket D and flap B, and with the lower compartments E E, and their securing flaps E E, the arrangement and adaptation being substantially as described and represented.

No. 50,731.—WM. PIMLOTT, Syracuse, N. Y.—*Stock for Holding Screw-cutting Dies.*—October 31, 1865.—This invention consists in making semicircular grooves in the ends of the dies, and round guides for holding them in the stock, one of which is suspended in the stock eccentrically, which holds the dies in place or readily releases them, when turned in the proper direction.

Claim.—The eccentric guide or bearing A, substantially as described and for the purposes set forth.

No. 50,732.—I. N. PYLE, Decatur, Ill.—*Cake Cutter and Rolling Pin.*—October 31, 1865.—This invention consists in the combination of a rolling pin with a cake cutter, the latter consisting of a case carrying any desired number of cutters of various shapes and styles, into which the roller is to be inserted when the cakes are cut.

Claim.—The combination of a cake cutter with a rolling pin, substantially as described.

No. 50,733.—L. V. QUIMBY, Boston, Mass., and WM. G. MARSTON, West Fairlee, Vt.—*Blind Fastening.*—October 31, 1865.—This invention consists in constructing and using devices for opening and closing and fastening window blinds or shutters, the devices forming which are arranged so as to avoid the necessity of raising a window for that purpose.

Claim.—The combination of the catches *n* and blocks *g* and lever *a*, wheel *k*, shaft *b* and pulley *c*, all substantially as herein shown and described, and for the purpose specified.

No. 50,734.—URIAH RICE, Cincinnati, Ohio.—*Flour Sifter.*—October 31, 1865.—This invention consists of a tank of cylindrical form, between the top and bottom edges of which is a sieve. Upon the outer edge of the tank is secured a suitable frame in which revolves a shaft that has a brush attached to it that extends horizontally across the tank, so that by turning the shaft the brush is rotated and the flour is caused to pass through the sieve.

Claim.—The combination of the sieve B, receiving tank A, receiving clamps *a*, bracing bar *c*, shaft *e*, and brush *g*, all constructed as above described and for the purpose set forth.

No. 50,735.—DWIGHT RUSSELL, Milford, Mass.—*Vapor Inhaler.*—October 31, 1865.—By the peculiar arrangement of this instrument only a small quantity of medicated liquid need be used, and if the vapors created and inhaled are too pungent, by removing the finger from the air-hole, fresh air may be admitted and the vapors weakened. A tube serves to both fill and empty the instrument.

Claim.—The improved inhaler, as made of one entire piece of glass, in manner substantially as specified.

No. 50,736.—ZENAS SANDERS, West Windsor, Vt.—*Milk Stand.*—October 31, 1865.—This invention consists of a post that can be revolved, having an upper section to be adjusted to reach the ceiling, and secured to revolve there. Cross-bars are arranged on the post to place the milk pans upon, and over the whole is a disk to which is attached netting to keep away the flies.

Claim.—The combination of the notched board E, and its inclined pins, with its cross-bars and the post A, provided with holes or recesses for the reception of such pins, in manner as specified.

Also, the combination of the supporter G with the milk stand, made substantially as described, such supporter being for sustaining a curtain H about the pans, as set forth.

No. 50,737.—CHARLES E. SEAVEY, Boston, Mass.—*Stove-cover Lifter.*—October 31, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The fixing of a cover lifter, a shovel or tool, to its handle and the combinationg and arrangement of the piece *d* and the shoulder *b* with the shank handle and ferrule of the lifter, substantially as specified.

No. 50,738.—G. N. SEIDLER, Hartford, Conn.—*Bed Bottom.*—October 31, 1865.—This invention consists of a frame made to fold in three parts, with spiral springs, the head portion of the bottom being arranged with an oscillating ratchet and catch, so that it can be elevated to suit the occupant of the bed.

Claim.—The oscillating ratchet plate B, in combination with the fixed catch plate E, cord F, and folding bed bottom, substantially as and for the purpose described.

No. 50,739.—J. H. SHEDD and BENJ. WORCESTER, Waltham, Mass.—*Hot-air Furnace.*—October 31, 1865.—Around the fire-pot is a chamber into which the products of combustion pass, and in the top of the same is a small aperture of corresponding size with the exit pipe. From near the edges of the top of this chamber numerous pipes pass down outside, but in the hot-air space, whence heat is led off to various rooms, and enter again this chamber below and near the point of combustion. At a little distance from the grate is placed a vessel of water, the steam from which is designed to aid combustion and modify the heat.

Claim.—First, the use of heated gaseous products of combustion as a circulating medium, to convey the heat of the fire through channels, whereby the heat can be given off to the surrounding air, these products then returning to the fire and passing partly through it, and partly near and around it, for reheating and further combustion, substantially as and for the purposes set forth.

Second, the application of watery vapor or steam to the gaseous products of combustion, to increase their efficacy and beneficial effect as a medium of heat to radiating surfaces for the heating of air, substantially as and for the purposes set forth.

Third, the device for connecting the direct valve of a smoke pipe with the fire door, by rod or chain, in such a manner that when the door is opened the smoke pipe valve will also be open, and when the door is closed the valve will be closed.

No. 50,740.—H. F. and G. F. SHAW, West Roxbury, Mass.—*Corn Sheller.*—October 31, 1865.—This invention consists in the employment of a bell-shaped shelling burr arranged upon a horizontal shaft, in combination with guides placed diagonally from the plane of the shaft, the whole being enclosed in a suitable box, with openings to admit the ears of corn to be shelled, and to discharge the cobs and shelled corn therefrom. The corn is introduced at a point vertically from the larger portion of the burr, and makes the exit at a point horizontally with the burr at the small end.

Claim.—The employment of a bell-shaped rotating sheller, in combination with a guide bar or bars, arranged diagonally, both in a horizontal and in a vertical plane with the axis of the lever, substantially as and for the purpose described, viz., for giving the ears of corn a very rapid rotation around its own axis at the larger end of the lever, before the main part of the shelling takes place at the smaller end thereof.

No. 50,741.—JAMES SHORT, Roxbury, Mass.—*Hod.*—October 31, 1865.—This invention consists in applying to the under side of the hod, where it rests upon the shoulder, a flexible bag for enabling the workman to carry the hod with more ease than such as commonly made. It also consists in the combination with said hod of a folding handle.

Claim.—First, the rubber tubing B, or an equivalent thereof, in combination with a hod, substantially as and for the purpose herein specified.

Second, the folding handle C C′, in combination with a hod, substantially as and for the purpose herein specified.

No. 50,742.—SAMUEL SHORT and E. S. SCRIPTURE, Brooklyn, N. Y.—*Oil Can.*—October 31, 1865.—This invention is designed as an improvement on a device for which a patent was granted February 25, 1865, and the improvement consists in the application of a metal spring band across the elastic diaphragm, in connection with a disk-shaped thumb-piece attached thereto at the centre.

Claim.—In combination with the flexible bottom A, the loop-shaped thumb-piece B and spring C, when the same shall be combined in the manner and for the purpose specified.

No. 50,743.—J. H. SMITH, New York, N. Y.—*Method of Treating Peat.*—October 31, 1865.—The object of this invention is to separate from peat all sulphur or salts containing sulphur, and other impurities, and to render peat fit for the manufacture of illuminating gas.

Claim.—Treating peat with superheated steam, substantially as and for the purpose described.

No. 50,744.—THOMAS SMITH, Cincinnati, Ohio.—*Coal Scuttle.*—October 31, 1865.—This invention consists in forming the bottom of the scuttle of cast-iron, and of an arched or convex form, having ribs radiating from the centre on the lower or concave sides, and also in having an upward projecting flange around its edge to which to attach the body of the scuttle.

Claim.—The construction of a coal-scuttle bottom, in the manner and for the purpose set forth.

No. 50,745.—JOHN SPARROW, Portland, Me.—*Box for Shafting.*—October 31, 1865.—This invention consists in the application of a raised or sleeve bearing to a shaft, instead of turning the shaft down as usual; also, in combining with the sleeve bearing a perforated box, enclosed in an outer shell intended to hold oil in such a manner that a portion of the circumference of the sleeve bearing is continually in a reservoir of oil.

Claim.—First, the application of a sleeve bearing *a* to the shaft A, substantially as and for the purpose described.

Second, the combination of the perforated box C with the shell D and sleeve bearing *a* of the shaft A, constructed and operating substantially as and for the purpose set forth.

No. 50,746.—HENRY SPENGLER, Philadelphia, Penn.—*Slide Valve.*—October 31, 1865.—This invention consists in arranging a valve constructed with a steam port through its centre, so that the steam in its passage to the cylinder passes around its upper and lower edge, by which arrangement the suction of the valve necessary to produce a full-sized aperture is reduced to about one-half of that required in ordinary valves. It also consists in arranging two seats for the tube, one on the top of the valve and the other on the bottom, which are duplicates one of the other, and through both of which steam passes to the cylinder; also in the combination of the parts of the two vents and the port in the valve.

Claim.—The within-described valve, when so arranged as to permit the steam to pass to the cylinder around its upper and lower edges, by which arrangement a full area of opening is made by slightly more than one-half the motion usually given to such valves, substantially as described.

Second, the combination of the posts in the valve A with the posts F and supplementary posts K, substantially as and for the purpose set forth.

Third, arranging the within-described valves between two parallel seats, when such seats are duplicates the one of the other, substantially as shown and described.

No. 50,747.—MATHIAS STAUB, Philadelphia, Penn.—*Chuck.*—October 31, 1865.—This invention consists in a perforated plate arranged upon the back of the face plate, or in radial grooves therein, to which is connected a bolt passing through slots in the face plate, and which forms upon the front side of the face plate a fulcrum through which the screw operates the chuck, the said perforated plate being adjustable towards or from the centre.

Claim.—The combination of the perforated plate A, the perforated back clamp F, and pins H, substantially as described and represented.

No. 50,748.—DANIEL C. STILLSON and JOHN C. CHAPMAN, Charlestown, Mass.—*Pipe Tongs.*—October 31, 1865.—This invention consists in an eccentric gripe placed with a sliding carrier block, and made adjustable by means of a screw placed opposite, by which arrangement as the tool is moved in one direction the pipe is turned, while it slips over the pipe to take a fresh hold when moved in the opposite direction.

Claim.—The gripe D, pivoted eccentrically in the sliding block C, in combination with the springs *f*, or their equivalent, arranged and operating substantially as set forth.

No. 50,749.—CHESTER W. SYKES, Suffield, Conn.—*Plough.*—October 31, 1865.—In this invention a movable side-hill share is pivoted by braces to the top of the share proper, and is connected by a jointed brace to the handles in such a way that it may be moved from side

to side over the plough instead of under the same. The shape of the additional share is that of the section of a cone.

Claim.—First, in combination with the other parts of a plough, a mould-board hung on the top of the share in such a manner that it may be moved from side to side and fastened, substantially in the manner and for the purpose described.

Second, the peculiar form of the mould-board C, substantially as herein set forth.

No. 50,750.—GEORGE THACKRAY, Mystic Bridge, Conn.—*Slide Valve for Steam Engines.*—October 31, 1865.—The object of this invention is to use the slide induction valves, which are independent in their movement of the eduction valves, and render them available in cutting off the steam at various points of the piston stroke. It also consists in the combination of an adjustable cam, with the valves, solid stem, hollow stem, and loops, and also in the combination of two skeleton inlet valves moved independently, and two skeleton exhaust valves, moved simultaneously.

Claim.—The adjustable cam H, applied in combination with the valves E E′, solid stem *d*, and hollow stem *d′*, with loop *e*, substantially as and for the purposes set forth.

No. 50,751.—ALFRED V. THOMAS, Frederick, Md.—*Travellers' Night Lock.*—October 31, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—A portable or pocket door fastening, composed of triangular plates, which are pivoted together, so as to operate substantially as described.

No. 50,752.—SAMUEL VANSTONE, Providence, R. I.—*Fumigator.*—October 31, 1865.—This invention consists of a chamber, in which the substance to be burnt is placed, said chamber being connected with the drum of the blower.

Claim.—The combination of the retort A, or its equivalent, with the blower, and suitable devices for operating the same, constructed substantially as and for the purposes described.

No. 50,753.—PETER L. WEIMER, Lebanon, Penn.—*Apparatus for Bending and Punching Truck Irons.*—October 31, 1865.—This invention consists of a frame or anvil, the upper surface of which is formed to correspond to the shape which it is desired to give to the truck iron, and which has let into it at each end a die with two holes corresponding to the holes required in the iron, and a hinged punch guide, which folds over upon the bar after the latter is properly bent, and guides the punch. A similar die and punch guide block is located at the middle of the frame or anvil, except that the punch guide is not hinged. The punch used is tapering in form, and in practice is permitted to follow the displaced metal, and fall through the die.

Claim.—First, providing the frame A with perforated guide and holding-down blocks C C D, substantially as described,

Second, the construction of the central bed *a′*, of the frame A, with side guides *e e*, and a key post A′, in combination with the movable block D and key *d*, substantially as described.

Third, constructing the movable guide block D with lugs *f f*, and adapting it to receive handles *g g*, substantially as described.

Fourth, the combination of the punch with the machine, substantially as described, for the purpose set forth.

No. 50,754.—PETER L. WEIMER, Lebanon, Penn.—*Apparatus for Punching.*—October 31, 1865.—This apparatus is designed for the punching of holes in bars, and consists in an arrangement of dies made adjustable, as to distance, one from the other; a series of guide blocks for maintaining the bar in a true position, and a hinged frame upon which, and projecting beyond its edge, are arranged a series of adjustable punch guides, in number corresponding to that of the dies.

Claim.—First, the combination of adjustable die blocks *b b* with adjustable perforated guide blocks *h h* and a movable frame D, substantially as described.

Second, the vertically adjustable end supporters C C, and guide frame D, in combination with the die blocks *b b*, substantially as described.

Third, the combination of the side guides *e e*, abutment *d*, and guide and pressure blocks *h h*, with the lower supporting die blocks *b*, substantially as described.

No. 50,755.—PETER L. WEIMER, Lebanon, Penn.—*Apparatus for Bending and Punching the Frames of Draw-heads for Railway Cars.*—October 31, 1865.—This invention consists of a pedestal or anvil having two lateral projections, upon each of which is a punch die and a hinged punch guide block, while upon the top of the anvil there is a transverse recess, in which the bar is held tightly clamped by a wedge, while it is being bent down against the sides of the anvil.

Claim.—First, the improved apparatus or machine, substantially as herein described, for the purpose set forth.

Second, the perforated lever G, in combination with the punching bed B, and the recess *c*, substantially as described.

Third, the bending bed F, in combination with the key post D and key E, substantially as described.

Fourth, the combination of punching bed C and transversely slotted and vertically perforated lever H, substantially as described.

No. 50,756.—PETER L. WEIMER, Lebanon, Penn.—*Bending and Punching Draw-head Plates.*—October 31, 1865.—This invention consists of an anvil, with certain attached appliances arranged for conveniently clamping, punching, and bending the oval plates of drawhead frames, and for clamping the frame while the plate is being riveted upon the frame.

Claim.—First, the construction of the anvil block A with a projection B, in combination with the former C and holding-down bar D, substantially as described.

Second, the curved face mortised shelf G applied to the anvil block, substantially as described.

Third, the bed-piece L and movable bolt N applied to the anvil block A, substantially as described.

No. 50,757.—PETER L. WEIMER, Lebanon, Penn.—*Machine for Bending and Punching Hooks.*—October 31, 1865.—This invention consists of an anvil block, having an inclined surface and a curved projection corresponding in shape to that which it is desired to give to the hook, together with certain appliances for clamping and punching the hook.

Claim.—First, the construction of the pattern C, shoulder *c*, and key posts B B, with the supporting bed A for the shank of the hook blank, and forming the hook *b* thereon, substantially as described.

Second, the construction of the punching bed D, with a pattern D′ and die block *g*, substantially as described.

Third, the perforated lever G, in combination with the die block *g* and punching bed D and the hook pattern D′, substantially as described.

Fourth, the combination of the shaping and punching contrivances for finishing car hooks, substantially as described.

Fifth, the combination of a tapering punch J with the perforated lever G and a punching bed, having an open space beneath it, substantially as described.

No. 50,758.—PETER L. WEIMER, Lebanon, Penn.—*Apparatus for Bending Chain Links.*—October 31, 1865.—This invention consists of an upright block or pedestal, which supports upon its upper end a broad level anvil, and underneath the latter a revolving mandrel, which has a hand-wheel upon one end and a pattern or forming block, together with the necessary clamping device for holding the rod in place while it is being bent around said former.

Claim.—First, the combination of a link former *b* with a turning mandrel D, substantially as described.

Second, the link former *b* and key-holding head *c*, applied to a turning mandrel D, which can be removed from its bearings at pleasure, substantially as described.

Third, the recess *g* in the former *b*, in combination with the holding keys *d d′*, and head *c*, substantially as described.

Fourth, providing the standard A of the link-forming contrivance with an anvil C, substantially in the manner and for the purposes described.

No. 50,759.—GEORGE WESTINGHOUSE, Jr., Schenectady, N. Y.—*Rotary Steam Engine.*—October 31, 1865.—This invention consists in providing an annular cylinder contained in a disk, which is made to revolve about a stationary shaft, through which the steam is admitted and exhausted at opposite ends. A central piece is made to surround the shaft, which is enclosed by the disk, and through which ports are made for the steam to pass to the cylinder. The piston is formed of heads or disks, having considerable space between them, and are held together by a web or bar extending from one to the other of these. There are two, one acting as an abutment for the steam to act against, while the other is in motion and making one revolution around the shaft, when it becomes stationary and serves as the abutment, while the other is performing its revolution. The disk in which the cylinder is fixed, being made to revolve around the shaft, serves the purpose of a fly wheel.

Claim.—First, in rotary engines the combination of the fixed hollow shaft C and fixed centre piece B, with the rotating disk A A′ and independent pistons E F, substantially as described.

Second, constructing the pistons F, in the manner substantially as above described, with leading guides *f* connected by plates *c*, the convexity of whose outer edge fits the outer curve of the cylindrical space, substantially as and for the purposes above described.

Third, the combination of the sliding bolts *i* and *j* with the travelling pistons, substantially as above described.

Fourth, the combination of the valve D with the disk or cylinder A A′, to which it is attached, constructed and operated substantially as described.

No. 50,760.—HENRY F. WHEELER, Boston, Mass.—*Breech-loading Fire-arm.*—October 31, 1865.—In this invention the barrel is made to rotate on a longitudinal pin, or an axis parallel with that of the bore, and is then free to slide forward a limited distance, leaving the cartridge behind held by a grooved and flanged collar at the breech plate around the axis pin.

Claim.—The construction of breech-loading fire-arms, by which the cartridge shell is expelled by a combined rotative and longitudinal movement of the barrel upon the base pin, substantially as set forth.

No. 50,761.—ZENAS WHEELER, San Francisco, Cal.—*Fastening Wheels and Pulleys to Shafts.*—October 31, 1865.—This invention consists in using in connection with the wheel or pulley, and its shaft, for the purpose of fastening the same to it, one or more feathers, so called, and tapering cross-ties or keys, the keys being driven into the wheel in such a manner as to bring the feathers to a close bearing against the shaft. This mode of fastening enables pulleys to be placed much closer together upon a common shaft than by the mode heretofore used.

Claim.—The mode herein described of fastening wheels, pulleys, drums, &c., to their shafts, the same consisting in the combination of one or more feathers *c c* and wedge *h*, arranged and operating together as specified.

No. 50,762.—JESSE F. WILSON, Lewisville, Ind.—*Wagon Brake.*—October 31, 1865.—A self-acting brake is so arranged as to engage with the wheels when the wagon is descending an incline or hill, but is not operated by merely backing the wagon.

Claim.—The toggle H connected with the rod G at the under side of the draught pole, and which rod is attached to the shoe bar C and cranks *c c* of the shaft K, in combination with the bar M pivoted in the draught pole, and connected with the toggle, and all arranged to operate in the manner substantially as and for the purpose set forth.

Also, the lever O connected by a rod N with the bar M, in combination with the toggle H, as and for the purpose specified.

Also, the cross-head P connected with the rod N, in combination with the arm *e* of the bar M and toggle H, substantially as and for the purpose set forth.

No. 50,763.—GALLUS WOEBER, Davenport, Iowa.—*Whiffletree.*—October 31, 1865.—This invention relates to a method of attaching the whiffletree to the cross-bar of the thills, whereby the bolt on which the whiffletree works is relieved of the strain to which it has been hitherto subjected, and the play or turning movement of the whiffletree on the bolt is limited, so as to avoid the use of straps hitherto employed to prevent whiffletrees, when attached to a doubletree, from coming in contact with the wheels, and also to prevent them, when used singly or doubly, from coming in contact with the legs of a horse, in case one of the bolts becomes casually detached.

Claim.—The socket C attached to the cross-bar of the thills and provided with the bar *d* and slot *e*, to form a guide in connection with the plate E attached to the whiffletree B, fitted in the socket C, and provided with an arm D to fit in the slot *e* of socket C, all being arranged and used in connection with the bolt F, substantially as and for the purpose set forth.

No. 50,764.—WILLIAM ASPINALL, assignor to himself and JAMES LEDGER, Manayunk, Penn.—*Loom for Lappet Weaving.*—October 31, 1865.—In this invention by placing the pattern wheels on the side of the loom, a much larger pattern can be worked than if fastened as usual to the swords of the lay. The vertical adjustment of the needles insures against any other obstruction by the threads to the passage of the shuttle. The tension frame consists of two parallel lines of cord kept distended by blocks, between which lines the yarns to be interwoven pass from the yarn beams. The said frame is hung by cords horizontally upon brackets, and these cords, being twisted before the yarns are passed through the frame, produce the friction or tension desired.

Claim.—First, in combination with the universal joint, the pattern wheel fastened to the loom frame and independent from the lay, and operated from the main driving shaft, as above described.

Second, the combination of the studs *e e* and slotted brackets *d d*, for the purpose of adjusting the needles vertically, as above described.

Third, in combination with the needles, the tension frame and cords, constructed as and for the purpose described above.

No. 50,765.—F. M. BAKER, assignor to CHARLES JORDAN, South Reading, Mass.—*Cooking Stove.*—October 31, 1865.—This invention consists in the combination and arrangement of an auxiliary oven at the back of the stove, its bottom and back smoke flue and damper, with the main oven of the stove; also, in combination with the same, a sunken flue space for heating a boiler above the auxiliary oven.

Claim.—The above described arrangement and combination of the auxiliary oven G and its smoke flue H and damper D′, with the main oven A of a cooking stove, and its discharge flues C and F, and dampers D D′, or with the same and the sunken flue space I, for heating the water vessel K, the whole being substantially as specified.

No. 50,766.—ANDREW J. CURTIS, Winterport, Me., assignor to BENJ. F. WALDRON, Boston, Mass., and CHARLES T. SEAVEY, Frankfort, Me.—*Boot or Harness Clamp.*—October 31, 1865.—This device consists of a clamping lever, with shoulders and a handle or ring, com-

bined with curved jaw legs and a fellow leg, together with a spring combined with a handle and lever.

Claim.—The above described improved vice or stitching clamp as constructed with a clamping lever E and its shoulder or shoulders *i i* and handle or ring *f*, or the equivalent of the latter, arranged and combined with the curved jaw leg C and its fellow leg D, in manner and so as to operate therewith, substantially as described.

Also, the combination of the spring *g* with the handle *f*, the lever E, and the jaw legs C D, made and applied in manner and so as to operate together substantially as described.

No. 50,767.—THOMAS B. DAFT, Mark Lane Chambers, London, England, assignor to D. D. WILLIAMSON, Jr., Edinburg, Scotland.—*Construction of Iron Ships.*—October 31, 1865.—This invention consists in constructing iron ships with grooves or gaps in the plating, and filling said grooves with teak or other suitable material, so that a sheathing of zinc or other like material can be secured to the iron plates in an easy and convenient manner, and that by these means an iron plate can be protected against the influence of sea water and impurities liable to adhere to the plates when they are exposed to sea water for a short time.

Claim.—The mode of constructing iron ships or vessels with grooves in the plating, and filling said grooves with teak or other suitable material, to which a sheathing of zinc or other material is attached, substantially as herein set forth.

No. 50,768.—L. A. DOLE, assignor to himself and ALBERT R. SILVER, Salem, Ohio.—*Machine for Tenoning Spokes.*—October 31, 1865.—This invention consists in constructing the machine with an adjustable standard, and so as to adapt it for supporting the table for holding and centring the spokes and the cutter for forming the tenons on the spokes. A pressure or feed lever is attached to the tubular bearing of the boring shaft, so that the cutters can be fed up or moved backward upon the shaft as desired.

Claim.—First, constructing the cutter or boring shaft C′ with a circular rack *e*, and arranging the toothed feed lever G to gear with said rack, substantially in the manner and for the purpose herein described

Second, the arrangement of the arm E on the vertically adjustable standard B, said standard serving to adjust and support the cutter or boring shaft C′, and said arm being adapted for sustaining the holding and centring devices for the spoke in front of the cutter *w*, or borer, substantially as herein described.

Third, the construction of the adjustable centring plate *g* with a notch in its upper end to receive the spokes, in combination with the pressure lever J, said parts being arranged in front of a rotary tenon cutter, substantially as described.

Fourth, the arrangement of the rod *j*, having a shoulder *i* formed on it, the binding plate *l*, and nut *k*, in combination with the rack *a* and pinion *h*, in the manner and for the purpose herein described.

Fifth, the construction of the frame of a spoke-tenoning machine with a slotted standard B, a slotted tubular bearing C, and an arm E, substantially as described.

No. 50,769.—ANNES A. LINCOLN, assignor to ANNES A. LINCOLN, Jr., Norton, Mass.—*Cupola Furnace.*—October 31, 1865.—This invention consists of a furnace provided with a tap hole and tuyeres. The tuyeres are arranged upon opposite sides of the furnace and somewhat above the bottom, and each opens into the chamber by means of a passage. Within each of these tuyeres there is arranged a curved pipe, having its sides next to the furnace perforated with jet holes, each jet pipe being connected to a steam pipe, which enters the tuyere and serves to support the jet pipe.

Claim.—As an improvement, for the purposes specified, the arrangement of the steam jet and air or blast apparatus, so as to cause the commingling currents of vapor and air to enter the furnace at a point B, above the grate or fuel base, without going through it, meaning specially to claim a cupola furnace as made with the tuyeres and steam jets, combined together and arranged with respect to its hearth or fuel base, substantially as specified.

No. 50,770.—R. G. LOCKWOOD, Battle Creek, Mich.—*Artificial Leg.*—October 31, 1865.—This invention relates to artificial legs in which the upper and lower parts are made of hollow shells, with a solid knee cap received in these shells, and in which the ankle joint can be tightened when it works loose.

Claim.—First, securing the ends of the straps E E′ and connecting plates *m m* to the knee section B, by means of a frame G, substantially as described.

Second, attaching the strap F to a lever *b*, which acts upon the foot D through the medium of a pin *c*, substantially as described.

Third, connecting the strap F at its lower end to a rocking applied within the hollow section of the leg, and lever *b*, substantially as described.

Fourth, the combination of the hollow sections A C, knee section B, and straps E E′, constructed substantially as described.

No. 50,771.—A. B. NIMBS, assignor to himself and JOHN C. CLIFFORD, Buffalo, N. Y.—*Railroad Journal Box.*—October 31, 1865.—This invention consists of a hemispherical bear-

ing or brass piece, resting in a cup of suitable form to receive it, formed in the top of the housing of the journal box, and in having a rib projecting from the bottom of the cup, which fits into an orifice in the top of the bearing to prevent too much motion.

Claim.—First, a journal box for railroad car truck axles, made convex or spherical on its upper side, in combination with a corresponding concave seat formed in the housing, for the purpose and substantially as set forth.

Second, a journal box, made convex or spherical on its upper side, and a removable seat piece F, with a concave seat formed thereon, in combination with a housing for railroad car trucks, substantially as described.

Third, projecting a rib G, from a concave seat formed in the housing D, or in a removable seat piece F, in combination with a journal box made concave on its upper side, for the purposes and substantially as described.

No. 50,772.—WILLIAM NORMAN, Van Buren, Ark.—*Press for Baling Cotton.*—October 31, 1865.—By causing the one end of a connecting bar to move along a horizontal line in a slot, the other end is obliged to assume a vertical motion by means of a link, to which the vertical connecting bar is fastened, and by this arrangement the compressing power is gradually increased in the same ratio as the resisting power of elasticity in the compressed material increases.

Claim.—First, the connecting rod G, link I, pressing block F, cross-head T, and slot H, in combination with the cord or chain K, for raising and relieving from pressure the block F, when arranged and constructed substantially in the manner set forth.

Second, the cross bars *b*, with their notches and catches, in combination with the liberating lever *d d'* for fastening and freeing the gates E', substantially as set forth.

No. 50,773.—GEORGE T. PARRY, Philadelphia, Penn.—*Preventing Incrustation of Steam Boilers.*—October 31, 1865.—By this invention the negative electrical condition of the boiler which favors the incrustation is changed to a positive one, which repels the precipitation or crystallization of the minute particles of calcinous matter in the boiler.

Claim.—First, suspending within a steam boiler one or more permanent magnets, for the purpose of inducing an electrical current, to operate as described.

Second, the hollow box A, with its insulated lining, together with the manner of packing and insulating the rod C, which passes through the said box.

No. 50,774.—A. F. PORTER, Philadelphia, Penn.—*Preventing Incrustation of Steam Boilers.*—October 31, 1865.—The metallic points of a conductor collect whatever electricity there may be generated within the boiler, and conduct it through the rod and its connections to the shell of the boiler, thus preventing the crystallization of the calcareous deposits generated in evaporating water.

Claim.—The above-described apparatus for preventing incrustation in steam boilers, the same consisting of a conductor, round at one end, with a series of points, or their equivalents, and connected at the other extremity with the shell of the boiler, the whole being constructed within the boiler at some intermediate point by an insulated attachment, all substantially as herein set forth.

No. 50,775.—DANIEL B. RANDALL, Augusta, Me., assignor to himself and SAMUEL W. RUSSELL, East Poland, Me.—*Blind Fastener.*—October 31, 1865.—This invention consists in part of two lever catches, placed within and so as to project in opposite directions from a case. Each lever has fulcrum projections extending from it, and also a catch at the extremity of each arm. The case, when in use, is to be screwed or fastened to the under side of the lower bar of a blind, in order that the two catches, when the blind is closed, may be in engagement with a staple driven vertically into the window sill. In order to prevent the levers from being operated on by a person on the outside of the house, and when the blind is closed, a device, which may be a common butt-hinge, is used, one leaf being secured to the blind so as to enable the other to be turned down between the inner arms of the two levers, and thus prevent the levers from being moved toward each other.

Claim.—The arrangement of the projections *a a c c d e* and the recesses *b b* with the levers C C and their case D, the same being as described.

Also, the combination and arrangement of the hinge or device G, or its mechanical equivalent, with the blind and the two catch levers C C, applied thereto, as explained.

No. 50,776.—JOHN A. ROEBLING, Trenton, N. J., and JOHN MCMURTRY, Lexington, Ky., assignors to JOHN MCMURTRY, Lexington, Ky.—*Railroad Chair.*—October 31, 1865.—The object of this invention is to obtain a chair for connecting the ends of railroad rails, so that they will be held firmly in position, and be protected from the percussive action of the car wheels. The invention is explained by the claim.

Claim.—A solid cast-iron block fitted at one side of the rails, and having an upper chilled surface level with or a trifle above the level of the rails, in combination with a wrought-iron plate at the opposte side of the rails, and all connected by transverse bolts, as set forth, for the purpose of insuring a continuous bearing at the joint of great massiveness and durability.

Also, the solid and cast-iron block and wrought-iron plate, placed one at each side of the rails, in combination with a flange or flanges on either side of the base of the cast-iron block or wrought-iron plate, or on both of them, and transverse bolts, substantially as and for the purpose specified.

No. 50,777.—JOHNSON ROSS, East Liberty, Penn., assignor to A. H. GROSS and C. W. BATCHELOR, Alleghany county, Penn.—*Mode of Operating Boring Tools for Artesian Wells.*—October 31, 1865.—The object of this invention is to prevent a drill rope from becoming twisted in the operation of drilling a deep well. This object is effected by winding the surplus rope outside of the well on a revolving platform, which is made to turn in the same direction in which the rope tends to twist, thus not only preventing any knotting of the rope from torsion but insuring also a continuous rotation of the rope and, consequently, of the drill attached thereto.

Claim.—First, the revolving platform *r*, with its reel *i i'*, placed centrally over the bore of the well, and caused to revolve on its axis while the boring tool is being worked, in the same direction as the boring tool and rope in the well, for the purpose of holding the slack or surplus rope outside of the well and preventing it from becoming twisted, substantially as herein before described.

Second, the use of the check block, with its wedge, for the purpose of securing the working rope while it is being detached from the walking beam of the engine, substantially as herein before described.

No 50,778.—WESLEY SAWYER, Lowell, Mass., assignor to himself and FRANCIS A. SAWYER, Boston, Mass.—*Elevator.*—October 31, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—In the improved elevator herein before explained, the combination and arrangement of the belt-shifting mechanism, viz., the two levers *h k*, and their connecting rod *i*, with the bucket K, its elevating chains G G, their toothed wheels C D E F, and gears *b c*, driving belt *l*, and pulley *g*, and fast and loose pulleys *d f*, the whole being to operate substantially as specified.

Also, the combination and arrangement of the guide rollers H H with the bucket K, its elevating chains G G, and their operative toothed wheels C D E F and shaft A, the whole being substantially as explained.

No. 50,779.—HENRY S. SHEPARDSON, assignor to H. S. SHEPARDSON & Co., Shelburne Falls, Mass.—*Machine for Facilitating Household and Culinary Operations.*—October 31, 1865.—This invention consists in the arrangement of a base or table supporting columns and suitable gearing mounted thereon, so that several household and kitchen or culinary purposes may be accomplished, viz., the scouring and grinding of knives, the chopping of meat and vegetables, the sifting of flour and beating of eggs, &c.

Claim.—The general arrangement of the base, columns, and gearing, so that the base will serve to hold any vessel under the gearing, and the gearing be susceptible of driving the different devices herein named; while the devices themselves are interchangeable to accomplish the several purposes herein named, substantially as described.

No. 50,780.—ABRAHAM TOMLINSON, assignor to himself and CHARLES C. CLEMENTS, Cincinnati, Ohio.—*Blacking.*—October 31, 1865; antedated August 9, 1865.—This invention consists of a composition made by mixing a solution of gum tragacanth with petroleum or coal oil and simple sirup.

Claim.—The blacking composed and compounded as described.

No. 50,781.—PETER L. WEIMER, assignor to AURORA IRON COMPANY, Lebanon, Penn.—*Machine for Finishing Lap-welded Tubes.*—October 31, 1865.—This invention consists in combining with a machine for rolling and lap-welding tubing a pair of revolving disks, serrated upon their edges, and arranged upon vertically sliding spindles, in such a manner as to cut off immediately after the tube leaves the rolls the fin which had during the process of rolling been formed upon its two opposite sides. The spindles during the operation are moved up and down so as to bring successively every portion of the serrated surfaces in contact with the fins.

Claim.—First, removing the fins from lap-welded tubing as it leaves the pressing rollers, by means of rotary cutters or files, substantially as described.

Second, providing for giving a vertical movement to the fin cutters at the same time that they receive a rotary motion, substantially as described.

No. 50,782.—JOHN I. RALYA, Alleghany, Penn.—*Cutting Staves.*—October 31, 1865.—This invention relates to the construction of the knife that cuts the stave to its shape in order to prevent splitting, and consists in forming on the outer sides of the knife a shoulder at an obtuse angle from the direction of the stave being cut, so that the shaving cut off will be broken, and thus prevent eating or riving into the stave.

Claim.—Constructing the knives for stave dressers with a shoulder projecting at an obtuse

angle from the outer face of each blade of the knife, substantially as hereinbefore described, for the purpose of breaking off the shavings or slivers so as to prevent the riving of the stave.

No. 50,783.—JOHN ABSTERDAM, New York, N. Y.—*Covering Projectiles.*—November 7, 1865.—This invention consists in covering or binding projectiles with a composition of copper and zinc in proper proportions. This composition remains malleable when heated, and will not crack and strip from the projectile while being fired.

Claim.—First, the employment or use of an alloy, such as herein described, for making bands, sabots, or packings of projectiles, substantially as specified.

Second, cooling the alloy suddenly after casting on the projectiles, substantially as and for the purpose set forth.

No. 50,784.—H. B. ADAMS, Brooklyn, N. Y.—*Siding and Covering Buildings with Wood.*—November 7, 1865.—This invention has for its object the economising and cheapening of materials for covering buildings, as a substitute for ordinary shingles, or clapboards, and it consists in cutting from around the surface of a log strips of wood, somewhat in the manner veneers have been heretofore cut. But instead of cutting, as has before been done, in parallel surfaces, the material is cut bevelling, or thicker at one edge than at the other, so as to make the proper taper from edge to edge of the article.

Claim.—A new article of manufacture, formed like clapboards, but with the grain of the wood running up and down, the same being made in long strips by cutting them from around the log, as herein described, by which to avoid the numerous joints of a covering of shingles, and produce a more perfect covering for buildings, and more economical than has been heretofore known.

No. 50,785.—THOMAS J. ALEXANDER, Westerville, Ohio.—*Spring Seat for Wagons.*—November 7, 1865.—This seat is formed of elastic boards, and is without other spring than that afforded by their action. The boards are connected at their centres by a cleat. There are four knees, which cross each other under the centre of the board, and are firmly bolted to the inner edges of the boards. These knees impart a twisting motion to the ends of the seat boards. The object of the whole arrangement is the production of a seat which shall readily yield to light pressure, and at the same time will not give way under heavy pressure.

Claim.—The spring seat, consisting of the boards *f f*, united by the cleat *i*, and attached to the knees E E, combined with the links C C, and slats B B, arranged and operating substantially as and for the purpose set forth.

No. 50,786.—CHARLES ANDREW, Providence, R. I.—*Mode of Lubricating Journals.*—November 7, 1865.—This invention consists in combining with a suitable reservoir for containing the lubricating liquid an adjustable screw plug for regulating the flow of the same to the bearing: Also, in constructing the box with a closed chamber beneath it and suitable ducts for conducting the surplus liquid from the bearing into the same: Also, in combination with a bearing so constructed, certain peculiar devices termed "lickers" or "conductors," arranged in each end of the bearing, so as to trail the surplus of the lubricating liquid from the upper surface of the shaft towards the middle of the bearing, and thereby preventing it from flowing out at the ends of the box.

Claim.—First, the combination of the lubricating reservoir with an adjustable screw plug, constructed and operating substantially as and for the purpose specified.

Second, the combination of the box or bearing H, the chamber *m*, and the ducts or passages connecting with the same, the whole being constructed to operate substantially as and for the purpose specified.

Third, the lickers or conductors *k k*, or their equivalent, in combination with a suitably constructed bearing, substantially as described, for the purpose set forth.

No. 50,787.—TUNIS J. BURHYTE, Fond du Lac, Wis.—*Combined Platform and Windlass.*—November 7, 1865.—This invention consists of a circular platform, on which is mounted an adjustable windlass of novel construction, so arranged that it can be turned to draw from any direction without moving the platform itself. The platform is hinged and provided with wheels, so that it may be transported with facility.

Claim.—First, a platform, hinged and mounted on wheels, for the purpose of moving it, substantially as shown and described.

Second, the rollers *a b c* and *d*, provided with cog wheels, and having the grooves for keeping the coils of rope separate, substantially as and for the purpose set forth.

Third, the reversible frame E, in combination with the platform as shown and described.

Fourth, mounting one of the rollers *c* or *d* in an adjustable bearing, as and for the purpose set forth.

Fifth, the anchor D, constructed as shown, and arranged to operate in combination with the movable platform, as herein set forth.

No. 50,788.—J. D. BATCHELOR, Upton, Mass.—*Boot-crimping Machine.*—November 7, 1865.—This invention consists in the combination with the clamping jaws of two screw

shafts, with their gears and cranks, and also in operating the clamping jaws by means of two parallel shafts having a gear meshing into the gear upon the other shaft.

Claim.—The combination with the clamping jaws of the screw shafts B and *c*, gears E D, and crank F, substantially as set forth.

Also, operating the clamping jaws in boot-crimping machines by means of two parallel shafts, each shaft having a gear which meshes into the gear upon the other shaft.

No. 50,789.—H. H. BEACH, Rome, N. Y.—*Grain Dryer.*—November 7, 1865.—This invention consists of a perforated rotary cylinder with longitudinal buckets or shelves inside, and opening at either end, provided with pipes through which air may be forced. A close jacket fits over and covers the upper half of the cylinder, but not so as to impede the rotations.

Claim.—First, the employment of a perforated rotary cylinder, or drum, which is so constructed that grain can be passed through it in a continuous stream, and subjected at the same time to currents of air and elevators or buckets *h h*, substantially as described.

Second, providing a rotating grain-drying cylinder, which is perforated, with a bonnet or cover S, or its equivalent, substantially as described.

No. 50,790.—S. R. BECKWITH, Cleveland, Ohio.—*Granary and Fruit House.*—November 7, 1865.—This invention relates to an arrangement of devices by which the air within the chamber is brought into immediate contact with the ice, while at the same time the metallic troughs which receive the water from the melting ice are supplied beneath with wooden troughs to receive the condensed moisture which drips from the metallic troughs. It also consists in an arrangement of devices for cooling and drying grain in bulk by the use of an ice chamber, hygroscopic salts and perforated pipes.

Claim.—First, the drying of grain in bins or boxes by causing a current of cold, dry air to be circulated through the same by means of the pipes *h h'* and I, in combination with the ice chamber D, substantially as set forth.

Second, the chamber D, rack D', slotted frame F, and annular or rectangular chamber N, in combination when constructed substantially as and for the purpose set forth.

Third, the ice floor *a*, in combination with metallic troughs *c*, and wood gutters *e*, constructed and arranged substantially as and for the purpose described.

No. 50,791.—E. N. BLACKMER, McGrawville, N. Y.—*Machine for Moulding Potters' Ware.*—November 7, 1865.—This invention consists chiefly in a frame or table upon which rest on the one side a rotating mandrel, and on the other a movable box, containing the mould in which the clay is put. By means of a crank the box is brought forward on a carriage.

Claim.—The combination of the shouldered mandrel *h* and the moulding box *b*, operated as above set forth.

No. 50,792.—ALONZO T. BOON and CHAS. L. STEVENS, Galesburg, Ill.—*Grain Dryer.*—November 7, 1865.—Air is forced into circular tubes inside the furnace, which thence flows by suitable passages into perforated horizontal pipes situated just at the lower circumference of the revolving wire-covered cylinders in which the grain is placed. A passage is provided from the drying chamber back to the point of combustion.

Claim.—First, the heating of air from a force-pump blower, or otherwise, in a series of ring tubes placed within a cylindrical or other shaped furnace, and the application of it thereafter to the outer surfaces of rotary grain cylinders through perforated longitudinal tubes, substantially in the manner and for the purpose set forth.

Second, the passage of the products of combustion from the furnace into the oven, through flues, for increasing the heat therein, whereby the condensation arising from damp or moist grain is dryed quickly, or absorbed, substantially in the manner and for the purpose set forth.

Third, the passage of the products of combustion back again from the oven, together with the discharged hot air from the longitudinal tubes, and whatever volatile oil or other matter that may be emitted from the grain while drying, to the fire-box of the furnace, for facilitating the combustion therein, substantially in the manner and for the purpose as set forth.

Fourth, the combination of the longitudinal tubes E with the flues H, whereby the hot air, in conjunction with the products of combustion in the oven, serve to give an increased heat therein, substantially in the manner and for the purpose as set forth.

Fifth, the ring tubes *a*, air chamber B, distributing pipes C, longitudinal tubes E, having jets or nozzles with oblong openings, smoke pipe *h*, flues H, and pipe *e*, as constructed and arranged, substantially in the manner and for the purpose as set forth.

No. 50,793.—AUGUSTUS BROWN, New York, N. Y.—*Steam-Engine Governor.*—November 7, 1865.—This invention consists in combining with a governor a swinging frame which carries the band wheel, and with a spring which is so arranged that in the event of the breaking of the belt the frame is caused to rotate through a portion of a revolution sufficient to close the communication with the boiler, and thus the engine is stopped before any damage is done. The governor operates upon the valve in the usual manner, and when the whole

is in operation the running frame is held against a pin for the purpose of keeping it in position, and in the event of the breaking of the belt the spring causes the frame to turn, and this causes the valve to turn and close the opening, as before described.

Claim.—The swivel arm C, and spring *k*, in combination with a governor and its valve, and with the belt which serves to impart motion to said governor, substantially as and for the purpose described.

No. 50,794.—B. J. BURNETT, Mt. Vernon, N. Y.—*Ventilator.*—November 7, 1865.—This invention is designed as an improvement on patent No. 49,373, and it consists in arranging the air ducts and regulating valves so that acute angles in the air passages are avoided.

Claim.—The construction and arrangement of the air ducts and regulating valves, substantially as and for the purpose herein specified.

No. 50,795.—J. B. CAPEWELL, Gloucester, N. J.—*Glass Caster Wheel.*—November 7, 1865.—This invention consists in the use of glass caster wheels with ribbed bushes, for bedsteads, sofas, pianos, and like articles of furniture.

Claim.—The employment of glass wheels with ribbed bushes for casters, substantially as and for the purposes herein specified.

No. 50,796.—JOHN W. CLARK, Manchester, Wis.—*Car Axle.*—November 7, 1865.—This invention consists in making the axle of railroad cars in three parts, divided transversely, and so arranged that while two parts, with their connecting piece, extend across the car in a straight line, each wheel is permitted to turn with its axle independently of the others.

Claim.—A car axle composed of the independent short axles A, provided with the journals *a*, having the projections *b* thereon, in combination with the central connection pieces B, constructed and operating as and for the purposes herein set forth.

No. 50,797.—SAMUEL A. CORSER, Holyoke, Mass.—*Car Coupling.*—November 7, 1865.—This invention consists in forming a slotted opening from the top downward half the distance of the opening of an ordinary open draw-head, into which is dropped a horizontal bar; the shackle having a pointed end enters the draw-head under the horizontal bar, and forces it up and passes in until a notch formed for the purpose comes under the bar, when it drops into the notch, and thus completes the coupling. This bar is raised by means of a cord or chain attached to its centre portion.

Claim.—The arrangement of the draw-head with its chamber D, the gravitating pin C, the pointed and notched shackle bar B, the whole arranged substantially as set forth and represented.

No. 50,798.—F. F. CORNELL, New York, N. Y.—*Construction of Baling Presses.*—November 7, 1865.—The nature and object of this invention are explained by the claim.

Claim.—First, forming a close press box or chamber by the employment or use of bars or strips of metal, or other material, placed between the upright posts of the framing, and working in suitable guides, and arranged so that their inner faces will be flush, or nearly flush, with the interior surface of the press box or chamber, and connected to the platen or follower and to the toggle levers, and operating substantially as and for the purpose herein specified.

Second, forming feet or lugs n' n'' upon the lower ends of the bars or strips M M′, and connecting together each pair by the rods *f*, substantially as and for the purposes herein shown and described.

Third, the use in a toggle-lever press of the lever sills E E, and sheave frame F F F, and guide sheave *d d d d*, so arranged as to form a secure foundation for the fulcrum points of the radii of the toggle levers, and at the same time provide a means of carrying the chains d' d' around the press chamber, so that the plane of the motion of the lower ends of the toggle levers and of the capstan used for winding the chains connected with the same may be placed at any required height above the base of the press chamber, substantially as and for the purposes herein specified.

Fourth, the joints in the lower part of the suspension rods, in combination with a side door or doors for liberating the ball from lateral pressure, substantially as described.

Fifth, the use of mechanism for retaining and liberating the platen on finishing the bale, substantially as described.

Sixth, the use of mechanism for opening the feed door automatically, substantially as described.

Seventh, the use of mechanism for liberating the cope automatically from the fixed position, so as to be used as a beater, by the action of the lifting rope, substantially as described.

No. 50,799.—GERMOND CRANDELL, Washington, D. C.—*Double-lever Fishhook.*—November 7, 1865.—The hook to which the bait is attached is pivoted at the intersection of two levers, armed with barbed hooks, and kept apart by a V-shaped spring, to the centre of which the fishing line is connected. On pulling at the bait, or central hook, the side hooks are drawn together as jaws, and securely hold the fish.

Claim.—The lever hooks A A, either with or without the side hooks *a a*, in combination with the bait-holder *b*, and the spring *d*, the whole arranged to operate substantially as and for the purposes herein set forth.

No. 50,800.—JOHN J. COOKE, New York, N. Y.—*Refining Lead.*—November 7, 1865.—This invention consists in treating the impure lead in a melted state with oxide of lead in a melted state, whereby the foreign metals are oxidized, and their oxides taken up by the litharge.

Claim.—The improved process of refining impure lead by treating it, while melted, with the melted oxide of lead, substantially in the manner hereinbefore set forth.

No. 50,801.—JEPTHA CUMMINGS, Perry, Mich.—*Neck Yoke.*—November 7, 1865.—The object of this invention is to render the yoke adjustable in such a manner that it may be vertically lengthened or shortened, so as to have a short and long yoke in one. The yoke is also so arranged as to equalize the draught, or subject each horse to an equal share of the labor of holding back the vehicle and its load in descending an eminence.

Claim.—The combination of the pivoted lever F, rods E E, and sliding rings C, arranged in the manner and for the purpose described.

No. 50,802.—JOHN DANNER, Canton, Ohio.—*Roller for Washing Machine.*—November 7, 1865.—This invention consists in applying a rubber covering to ribs made of wood or other material, and also in the manner of fastening the rubber to the ribs or rollers by wedge-shaped pieces of wood.

Claim.—A washing-machine roller, the ribs of which are covered by sheet rubber or rubber cloth and which is held to the ribs by the pieces C, or their equivalents, clamping the edges of the rubber, substantially in the manner and for the purpose herein described.

No. 50,803.—JOHN DAVIS, Northampton, Ill.—*Device for Spurring or Driving Horses.*—November 7, 1865.—This invention consists in attaching to a sweep horse-power a series of rods provided with spurs, and arranged with suitable levers, so that horses may be spurred without the aid of a driver, the spurs acting upon a number of horses, or only on those that require it when not performing their share of the work.

Claim.—The attachment to a sweep horse-power of a series of rods provided with spurs, and arranged with suitable levers, and in such relation with the sweeps that all of the horses attached to the power, or such as require it, may, by a single manipulation of a lever, be spurred simultaneously, substantially as described.

No. 50,804.—JULIEN DERBY, New York, N. Y., ALEXANDER TRIPPEL, Brooklyn, N. Y., and EUGENE GAUSSION, Baltimore, Md.—*Manufacture of Steel.*—November 7, 1865.—This invention consists in passing the molten iron from the blast furnace through a conduit into a basin situated at the top of an arch. The sides of this arch are pierced so as to allow of the introduction of tuyeres, which are inserted obliquely. These tuyeres are so placed that the jets of steam issuing from them will form a complete network inside of the arch. The molten iron is allowed to fall through the aperture in the top of the arch and pass through the jets of steam and into a tank which is filled with water.

Claim.—First, the tuyeres passing through the walls of an arch and carrying steam to the liquid pig after it has left the furnace, so as to produce granulation.

Second, the water tank or reservoir placed under said arch, for the purpose of receiving and chilling the granulated pig.

Third, the tuyeres adapted to the furnace, Fig. 2, for the purpose of carrying steam to the reheated granular pig with a view to transform it into magnetic oxide.

Fourth, further and especially the general disposition of the appliances herein described and figured, for the production of said granulated, chilled, and oxidized iron, as herein substantially set forth and specified.

No. 50,805.—ROSWELL DENISON and JOHN B. MOON, Grand Rapids, Mich.—*Grinding Mill.*—November 7, 1865.—This invention consists in forcing air between the stones of mills by means of a fan blower, placed on the curb over the stones, which causes the air to pass through the eye of the stone by means of a pipe, and at the same time through another pipe to the ground meal on the outside of the stone into the space between the stone or curb and coming in contact with the meal and then passing off by means of other apertures than the meal discharge.

Claim.—The combination of the fan blower *d*, air-pipes *r t*, arranged and described, and the discharge pipe and chamber *y z*, in which latter the air is withdrawn from the inside of the curb, distinct from the aperture through which the meal is discharged.

No. 50,806.—CHARLES R. DOANE, Spotswood, N. J.—*Stopper for Fruit Jars.*—November 7, 1865.—This invention consists of an expanding disk plate, through the centre of which passes a screw rod which is attached to a disk. A nut screws upon a rod by means of which the two disks can be brought together. A packing ring is placed around the disk plate.

Claim.—The improved stopper, composed of the radially divided or notched tightening disk B, combined with the packing ring D and counter disk C, substantially as and for the purpose herein specified.

No. 50,807.—GEORGE DOUGLASS, Scranton, Penn.—*Car Spring.*—November 7, 1865.—This device consists of a car spring composed of a series of steel plates placed over the tops of one another. The said series is placed in a spring box or case, each end resting on a block of India-rubber; in the centre of the box and under the middle of the series of plates is placed another block of India-rubber, lower than the end ones. The object is to make a spring continually active as the pressing force is increased.

Claim.—The elastic plates C, in combination with blocks B B′, of India-rubber or other suitable elastic or yielding substance, arranged within a box A, to operate in the manner substantially as and for the purpose herein set forth.

No. 50,808.—CASPAR DREHER, Detroit, Mich.—*Screw Thread Cutting Tool.*—November 7, 1865.—This invention consists in attaching to each of the inner faces or surfaces of two jaws made of cast iron or other suitable metal, and susceptible of being opened and closed at pleasure, and directly opposite to each other, a steel die, having their inner surfaces or faces partially cut out in a circular shape and provided with a series of screw threads of corresponding size and pitch to those of the bolts or clips which it is intended to restore or cut.

Claim.—As an article of manufacture a tongs whose jaws are provided with dies and set screws, substantially as described and represented.

No. 50,809.—JEREMIAH H. EARLE, Fall River, Mass.—*Hat.*—November 7, 1865.—An air-space is left over the forehead by separating the body of the hat for a short distance from the brim and converting the inner part to the purpose of a belt embracing the head.

Claim.—The separation of the body of the hat into two parts in front, and making the inside part or body open at the top and bottom, substantially as described.

Also fastening the sweat leather to the inside part or body, and the lining and brim to the outside.

No. 50,810.—JOHN B. FISHER, Cincinnati, Ohio.—*Washing Machine.*—November 7, 1865. This invention consists in the application of folding leaves, corrugated on the under side to the ordinary vibrating washing machine.

Claim.—The washboards *b*, folding leaves *d*, circulating bosses *c′*, and regulating rod *f*, combined as above specified, and for the purposes set forth.

No. 50,811.—H. H. FLEMING, Kokomo, Ind.—*Car Coupling.*—November 7, 1865.—This invention relates to a car coupling of that class which are termed self-acting or self-coupling, and it consists in an arrangement of the draw-bar and the manner of supporting and letting fall the coupling pin, and the retaining of the link or shack in proper position, whereby the coupling is made to act in an efficient manner and without the liability of getting out of repair.

Claim.—The yielding draw-heads B B, in connection with the pin-sustaining bars H, arranged substantially as shown, so that when the draw-heads are pressed inward or forced back in consequence of coming in contact with each other, the bars H will be actuated and the pin let down through the link or shack *e*.

Also, in connection with the yielding draw-heads and pin-sustaining bars, the yielding plates D, arranged to operate in connection with the spring-catch links and draw-heads, substantially as and for the purpose set forth.

No. 50,812.—THOMAS G. FRENCH, Jersey City, N. J.—*Crucible Mould.*—November 7, 1865.—This invention consists in mounting the former upon a fixed centre, so placed that when lifted off from the finished crucible the first act of moving it withdraws it from contact with the crucible, and the mould is secured in the chuck by means of screwed bars and a grooved hoop.

Claim.—Mounting the forming tool for the interior, substantially as and for the purpose set forth.

Also, securing the mould in the chuck by means of the screwed bars K and grooved hoop, substantially in the manner set forth.

No. 50,813.—P. W. GATES and D. R. FRAZER, Chicago, Ill.—*Stone Breaker.*—November 7, 1865.—This invention consists in a reciprocating upright jaw with a revolving primary and revolving secondary breaker cylinder, so that the stones are broken by the jaw against the upper revolving cylinder and rebroken to the desired size by the first or primary cylinder and the secondary revolving cylinder.

Claim.—First, constructing a stone breaker with a primary cylinder jaw G, and a movable breaking jaw B, and arranging these parts substantially as described.

Second, so arranging a single rebreaking device L, with respect to two primary breaking devices B G, one of said devices being a cylinder, that the stone will be subjected to a second breaking operation after it leaves the primary breakers, by means of a coaction of the primary and secondary breakers G L, substantially as described.

No. 50,814.—ALBERT GOODYEAR, New Haven, Conn.—*Machine for Binding Grain.*—November 7, 1865.—The gathering or compressing arms of the binder are furnished one with a twisting device, the other with a clamp or holder, and have, in addition to the usual vibrating movement for compressing the gavel, a lateral reciprocating movement by which the twister and clamp are caused to pass under a box containing straw for forming the bands, and a sufficient quantity for a band being seized at opposite ends by said twister and clamp, it is twisted in a manner similar to that in which it is usually done by hand, by a rotary motion imparted to the twisting device. The compressing arms are then moved back, passing the band beneath and around the sheaf, when the ends of the band are seized and twisted in the usual manner.

Claim.—First, the twister T, constructed substantially as described, so as to gather the straw and twist the band in the manner described.

Second, the combination of an apparatus for twisting the band, substantially as described, with a mechanism for gathering the grain to be bound into bundles.

Third, the twister H′, in combination with the twister T, for the purpose specified.

No. 50,815.—NICHOLAS GROEL, Newark, N. J.—*Carpet Bag.*—November 7, 1865.—This invention consists in constructing metallic corner pieces so that they can be readily attached to carpet bags. The same is constructed with a flange, button, and prongs, made to conform to the shape of the corner of the bag.

Claim.—The metallic corner piece herein described, constructed with the flange *f* and prongs *h h*, and adapted for application to a travelling bag, in the manner and for the purposes specified.

No. 50,816.—A. J. GUSTIN, Worcester, Mass.—*Rolls for Rolling Railroad Rails.*—November 7, 1865.—This invention consists in making the corresponding or opposite grooves in the upper and lower rolls of three high rolls made alike, and which form two series of grooves for rolling the bar, so that when that series beginning with the lower large groove is worn out, the top and bottom rolls are exchanged, one for the other, and a new central roll made which forms a new series of grooves, and saves the expense of making an entire new set.

Claim.—The combination and arrangement of a set of three high rolls, A, B, and C, for rolling railroad iron, constructed, arranged, and operating as set forth, whereby the blank spaces in the top and bottom rolls as heretofore used are utilized and made available, as shown and described.

No. 50,817.—EDGAR HAIGHT, Buffalo, N. Y.—*Feathering Paddle Wheel.*—November 7, 1865.—In this wheel the floats are axially suspended, and have grooved or slotted ends for the reception of the pins of the guide rods to the eccentric which feathers the floats, acting upon them by the connecting rod.

Claim.—First, the combination of the axially hung buckets F, having grooved ends G, and the eccentric rim C and pins *g*, by which the plane of the buckets may be made to radiate during their entire revolution from the summit of the wheel, substantially as described.

Second, the brackets I, applied to the wheel C, to operate in connection with the buckets F, substantially as and for the purpose specified.

No. 50,818.—L. V. HALL, Mount Morris, N. Y.—*Instrument for Tuning Pianos, Organs, &c.*—November 7, 1865.—The nature and object of this invention are explained by the claim.

Claim.—The special construction and arrangement of the automatic iustrument herein described, for tuning pianos and organs, the same consisting of the weighted bellows B, tube board C, valves D D, whose stems are provided with the notches *p p* for engaging with the catch *o*, springs *n n*, and the stop board E, the whole so operating that the device is self-acting, and so that a simple tone or a chord may be produced at once, and without the constant attendance of the operator, substantially as herein set forth.

No. 50,819.—THOMAS C. HAMBLY, San Francisco, Cal.—*Seat for Drivers and Conductors of Street Cars.*—November 7, 1865.—This invention consists in attaching a crane to the dash of a car, and on the outer end of the top arm of the crane is hinged a circular seat, loaded on one side so that when not in use it turns in a vertical position, and can be swung against the dash, where it is held by a spring.

Claim.—A swinging seat for street or other cars, applied to the dash board or other place on a car, constructed substantially as shown and described.

No. 50,820.—EPHRAIM HAMBUJER, New York, N. Y.—*Tool for Opening Boxes, &c.*—November 7, 1865.—This invention relates to a hammer which, besides the ordinary flat face for driving nails, presents a cutting edge for cutting off hoops in opening boxes or for cutting a recess in the edge of a box, including a scraper, either stationary or adjustable, for scraping off the address on a box, or for other similar purposes; a stationary claw for extracting nails, and a movable chisel claw inserted in a socket in the hammer for the purpose of forcing open the covers of boxes in such a manner that one and the same tool contains all the devices necessary or convenient in opening and closing boxes and for other operations.

Claim.—A combination hammer containing a flat face and a sharp cutting edge, a stationary claw and a movable chisel claw and a scraper, substantially as herein set forth, as a new article of manufacture.

No. 50,821.—THOS. C. HARGRAVE, Boston, Mass.—*Petroleum Stove.*—November 7, 1865.—The oil from the bottom of a reservoir nearly on a level with the combustion chamber is conducted by a pipe to the vaporizer, and the excess of vapor created is taken back to the top of the reservoir by another pipe, both pipes being provided with stop-cocks.

Claim.—The pressure pipe *b'* connecting the reservoir with the vaporizer, substantially as and for the purpose above set forth.

No. 50,822.—S. B. HARTMAN, Millersville, Penn.—*Bridle.*—November 7, 1865.—This invention relates to a safety attachment for bridles, and is designed as an improvement on a bridle for which letters patent were granted to this inventor bearing date June 28, 1864. The object of the present invention is to simplify and render less cumbersome the device as originally arranged, and at the same time retain all its advantages and possess the additional and important one of allowing martingales to be used.

Claim.—A bridle provided with a safety attachment formed by the employment or use of supplemental reins connected directly to the cheek straps which pass through the rings of the bit, substantially in the manner as herein set forth.

Also, the fitting or placing of the supplemental lines or reins within the ordinary reins, when such supplemental lines or reins are connected to the cheek straps of the bridle, and the former pass through the rings of the bit, substantially as set forth.

No. 50,823.—HENRY HELM, Alleghany City, Penn.—*Mode of Adjusting Car Wheels upon Axles.*—November 7, 1865.—This invention relates to a method of applying car wheels to their axles, whereby the advantages attending the securing of the wheels permanently in the axle and leaving the latter to rotate as in the usual way are obtained, as well as those attending the placing the wheels loosely on a fixed axle or one which does not rotate, while the disadvantages of both modes are avoided.

Claim.—Placing the wheels B on the axle between two flanges or bearings *a b* secured tightly on the axle, the flange or bearing *b* being provided with two journals *c c'*, on the former of which the wheels are placed and the latter fitted in the ordinary boxes, substantially as and for the purpose herein set forth.

No. 50,824.—JOHN R. HILL, Millville, N. J.—*Car Coupling.*—November 7, 1865.—This invention consists in the peculiar form of a jointed automatic coupling as shown in the engraving.

Claim.—The shape and construction of the jointed car coupling and lever combined, as herein described and for the purpose set forth.

No. 50,825.—EARL F. HOUGH, Martinez, Cal.—*Wind Wheel.*—November 7, 1865.—This invention consists of a wind-mill provided with a rotary wheel, an apron, and a wind-board, all arranged so that the wind blowing against the board raises the apron, thus shutting off the wind from the wheel and regulating its speed.

Claim.—The combination and arrangement of the apron K with the wind or storm board P, together with the wheel-box B attached to the swivel turn-table N, and revolving upon the track R R by means of rollers M M, substantially as and for the purposes set forth.

No. 50,826.—CHARLES W. JOHNSON, Waterbury, Conn.—*Power Presses.*—November 7, 1865.—This invention consists, first, in bringing the wheel which gives motion to the plate or disk eccentrically to the disk in a vertical line and driving it by a pin working in a radial slot in the said disk, which gives a slow downward movement and a quick upward movement to the punch; and, secondly, in an arrangement of devices for connecting and disconnecting the driving wheel when desired, consisting of a cam upon the end of the disk shaft operating a disk lever, so as to cause a bolt sliding in a groove on a shaft to take into a notch in the hub of the wheel or slide out from it as desired.

Claim.—First, the combination described of the gear I, and plate P, or their equivalents, constructed and arranged to operate together, substantially as and for the purpose specified.

Second, the combination and arrangement of the cam S, lever N, and bolt *r*, in the manner substantially as and for the purpose specified.

No. 50,827.—JOSEPH E. KAUSER, New York, N. Y.—*Bridge.*—November 7, 1865.—This invention consists, first, in applying in the construction of bridges, viaducts, &c., iron, or cast hollow cylinder tubes, whether round or polygonal in form, in such a manner that the strain shall be in the direction of their longitudinal axis without relying upon their lateral or cohesive strength; and. secondly, a device for neutralizing the effect of the contraction or expansion of the material.

Claim.—First, combining in the construction of bridges, viaducts, &c., iron or cast iron, round or polygonal cylinders or tubes, the length of which shall not exceed twelve times their diameter, in the manner herein described; that is to say in such a way that the press-

ure of the inherent or extraneous weight shall act in the direction of the longitudinal axis of said cylinders or tubes, substantially as herein described and for the purpose set forth.

Second, combining the semi-arches which form the bridge with each other at the centre of the bridge, and with the abutments at its ends, in the manner described; that is to say, making the central ends of the parallel semi-arches alternately convex and concave, so as to fit into each other, and the lower ends of said semi-arches convex, so as to fit into concave supports on the abutments, substantially as described and for the purpose stated.

No. 50,828.—ALBERT KEITH, Lisbon, Ill.—*Sulky Plough.*—November 7, 1865.—In this machine a long lever runs parallel to the draught pole and is fastened in an adjustable standard upon the front end of the pole. This lever is furnished at about its centre with a caster wheel, and by its elevation or depression the corresponding motion is given to the ploughs. The end of this lever works in notches upon an upright standard secured to the axle and to which the plough beam is pivoted below. The lever being moved laterally, turns the standard upon its pivot, and hence raises the angle at which the plough is set.

Claim.—The combination of the lever *v* with the sliding-brace *z*, guide standard *a* and standard M, and the arrangement and combination of the standard I, with the arm K and standard M, substantially as set forth.

No. 50,829.—HENRY W. KENT, Battle Creek, Mich.—*Marble-Finishing Machine.*—November 7, 1865.—This invention consists in communicating a combined rocking and reciprocating motion to grit or rubber by attaching the same rigidly to the free end of a pitman by means of forks.

Claim.—First, communicating a combined rocking or reciprocating motion to the grit S′, or other rubber, by attaching the same rigidly to the free end of the pitman R2, by means of the connecting forks *i i*, or other equivalent device, substantially as and for the purpose herein specified.

Second, the use of the single and double-jointed pitman R′ R2, in combination with the frame A and crank arrangement, substantially as herein described and set forth.

No. 50,830.—H. F. LOVEJOY, Nineveh, N. Y.—*Mowing Machine.*—November 7, 1865.—This invention relates to a means for adjusting the finger-bar, whereby the same may be raised above the surface of the ground when not required for use, as in turning the machine at the ends of a field or in transporting it from place to place, and is also made adjusted so that the sickle may cut higher or lower as may be desired, and prevented from clogging up with the cut grass, a contingency of quite frequent occurrence with the ordinary machines in use.

Claim.—First, the bar F attached to the main frame C, and passing over the draught pole A, in connection with the lever G, link *a*, and bar *b*, and the supplementary frame H, all arranged as shown, for the temporary raising of the points of the fingers of the bar N, for the purposes specified.

Second, elevating the finger bar N by means of the bar P, and levers Q R, arranged substantially as shown and described.

Third, the shaft S, in connection with the wheels T X, and levers U Y, arranged and applied to the finger bar N, to regulate the height of the cut of the sickle, substantially as described.

No. 50,831.—GEORGE MANN, Jr., Ottawa, Ill.—*Ventilating Car Window.*—November 7, 1865.—This invention consists in constructing a window for a car in such a manner that the frame of the window shall be sufficiently far from the body of the car to admit of there being applied to it, on each side, a valve or side window which can be opened or closed as desired, and retained in either position for the purpose of ventilating the car, which is effected by the forward motion of the car.

Claim.—First, the side windows or valves C arranged so as to open and close, substantially as herein specified.

Second, the spring *c*, or an equivalent thereof, in combination with the side windows or valves, for the purpose herein specified.

Third, the noses or projections *b*, in combination with the spring *c*, for the purpose specified.

No. 50,832.—JOHN MATTHEWS, Jr., New York, N. Y.—*Apparatus for Filling Bottles.*—November 7, 1865.—This invention consists of a socket piece having a socket provided with an elastic packing, against which the neck of the bottle is placed when the apparatus is in operation. The said socket piece is provided with two passages through which passes a tube having a short piece of rubber tubing attached to its upper end. The said tube may be pressed up into the bottle by means of a treadle. The liquid passes through one of the tubes and enters the bottle, driving the air out through another tube which is provided with a valve at its lower end.

Claim.—First, in an apparatus for filling bottles, an arrangement of the parts whereby the bottles can be filled in an inverted position, substantially as herein specified.

Second, in an apparatus for filling bottles two separate passages for the entrance of the liquid and egress of the air, substantially as herein described.

Third, the socket piece D, provided with a cup having an elastic lining, and with an inlet passage *b*, and fitted with a sliding tube E, substantially as and for the purpose herein specified.

No. 50,833.—J. K. MAYO, Portland, Me.—*Machine for Cutting Scale Board and Match Splints.*—November 7, 1865.—The block from which the veneers are cut is fastened by side and end dogs and a weighted bar in a carriage which has a reciprocating motion over a bed which is provided with a stationary knife or bit. The veneer as it comes from the block through the throat of the plane passes between plates to a pair of rollers by which its tendency to curl is removed. The roller is driven by bands from the carriage, which bands are so arranged that the reciprocating motion of the carriage gives the roller a continuous rotary motion. When it is desired to slit the veneer for splints, a series of knives attached to a head are brought into action by being pivoted through the bed on which the block is moved.

Claim.—First, the arrangement in the reciprocating frame of the dogs N *a a*, and weighted pressure bar I, substantially as described.

Second, the arrangement of the stationary knife C, throat piece B, deflecting plates *k l*, and rollers Y Z, substantially as described.

Third, the arrangement of the sliding frame E, straps T S, pulley Y, drum P, and weighted levers R R′, substantially as and for the purpose described.

Fourth, in combination with the subject-matter of the second claim, the vertically adjustable slitting knife D, as and for the purpose described.

No. 50,834.—ROBERT MCCONNELL, Lawrenceville, Penn.—*Instrument for Extracting Nails.*—November 7, 1865.—This invention consists of a lever having two fulcrums, one longer than the other. Near the long one is an opening or slot through the lever, through which project a pair of jaws pivoted together, and above the lever. Between these jaws and the handle of the said lever, is pivoted another lever which operates as a wedge, to force the said jaws together. The jaws are so arranged that they may be set each side of the head of a nail which has been driven into the wood, when a blow upon their upper ends forces them below the head of the nail. They are then forced together tightly by the lever and wedge. The operation of the first-mentioned lever then draws the nail out.

Claim.—The lever A, with the pincers B and B′, in combination with the lever C, and wedges *l* and *m*, when constructed and arranged as and for the purpose set forth.

No 50,835.—H. B. MEECH, Fort Edward, N. Y.—*Treating Straw for Paper.*—November 7, 1865.—This invention consists in treating the straw closely packed in a boiler with a soapy solution, in combination with a weak alkaline solution, rendered caustic by means of lime. The boiler after being charged is rotated, and steam is let in from an adjoining boiler. A fire is then started under the rotating boiler until the pressure with said boiler rises to one hundred pounds to the square inch, after which the fire is withdrawn and the rotation stopped. The pulp is allowed to remain in the boiler for from two to three hours, after which it is removed and treated in the ordinary manner.

Claim.—First, the above-described method of treating straw or other material, preparatory for making paper pulp, by so charging it into the boiler, letting into and on it the liquor and solutions, applying the steam and fire heat, rotating the boiler, and letting the same remain at rest, in the manner substantially and for the purpose above described.

Second, the use of a weak alkaline liquor, not to exceed two degrees of strength (Baume) in the treatment of straw under pressure, substantially as and for the purpose above described.

Third, the combination of the use of such weak alkaline liquor with this method of treating straw, as set out in the first claim herein, in the manner substantially and for the purpose above described.

No. 50,836.—DANIEL MINTHORN, New York, N. Y.—*Isometric Diaphragm Furnace for Desulphurizing Ores.*—November 7, 1865.—This invention consists of a chamber containing a basket-shaped ore receptacle, which may be made stationary or to rock upon trunnions, and provided with apertures in the bottom and sides. Beneath the basket a series of flues is arranged, formed by bricks which are arranged parallel with the sides of the basket in such a manner that they will shed the particles of ore which may fall on them. A diaphragm filled with iron scraps is used to decompose the super-heated steam as it passes through. The fireplace communicates with the desulphurizing chamber by means of a flue. It also communicates with other flues. The super-heated steam passes through the jet pipe into one of the flues, together with the flames from the fire, and from thence through the diaphragm.

Claim.—First, the intervening chamber or diaphragm containing iron borings or equivalent material, whether stationary or rotary, between a fire chamber and an ore receptacle, for the purposes above specified.

Second, in combination with the above, the annular or equivalent hollow form of the said diaphragm.

Third, the perforated cones or hollow projections in the chamber or diaphragm D, arranged substantially in the manner and for the purposes herein set forth.

Fourth, the inclined plates forming a tunnel-bottomed furnace for collecting the disintegrated material, arranged relatively to the ore chamber G F, and to the other parts, substantially in the manner and for the purposes herein set forth.

Fifth, the within described arrangement of the dishing grate or basket F, relatively to the annular or hollow diaphragm D, so as to facilitate the presentation of a thicker stratum of the ore near the centre, where the currents of gases and steam strike directly, than near the edges where they strike with less force, substantially as herein specified.

Sixth, the arrangement of the passages A′ B and C, and dampers A2 *b* and *c*, for changing the direction of the heat and gases, substantially as and for the purposes herein described and set forth.

No. 50,837.—ISAAC F. NUTTING, Palmer, Mass.—*Wheel Plough.*—November 7, 1865.—This invention consists in the attachment of a plough to the wheels, and its method of operation by levers. The rear of the plough and the front of the beam are connected by pivoted hangers to the rear of the draught pole. The end of the front hanger extends beyond the pivot, which becomes the fulcrum, and serves as a lever which is itself operated by a hand lever.

Claim.—The combination of the head lever E, connections *a b* F, with a plough D, and axle B, and draught pole C, when mounted on the wheels A A, substantially in the manner and for the purpose described.

No. 50,838.—H. W. OLNEY, Alleghany, Penn.—*Attaching Augers to their Handles.*—November 7, 1865.—This invention consists in a tube firmly attached to the auger handle, having a motion on one side to receive the barbed shank of the auger and a spring catch, so that when a rotating sleeve having a T-shaped slot is turned over it, the narrow part of the slot takes hold of the barbs of the shank of the auger, and at the same time the spring catch springs into the other part of the slot and holds the auger fast in place.

Claim.—The combination of the tube *a*, to which the hand pieces *b b* are attached, so as to form the handle of the tool with the tubular sleeve *c*, placed over the tube *a*, so as to turn thereon, and having an aperture *m*, to receive, and a slot *p*, the edges of which pass under and hold the barbed head of the auger or bit, and a spring catch *f*, to hold it in place, substantially as hereinbefore described.

No. 50,839.—HUDSON OSGOOD, Hartland, Me.—*Clapboard.*—November 7, 1865.—This invention consists in a method of constructing clapboards and other boards which it is desirable to prepare with a weather joint, the back of the boards presenting a plain surface, and the front an angular surface, so that when several are joined together they will present the appearance of ordinary clapboarding.

Claim.—In boards for siding and roofing houses, making their inner surfaces plain, their outer surfaces angular, and jointing their ends by means of metallic strips or plates, so as to protect the tongue and groove joints of adjacent boards from the weather, substantially as described.

No. 50,840.—JAMES PERRY, Brooklyn, N. Y.—*Elastic Supports for Beds, Seats, &c.*—November 7, 1865; antedated November 2, 1865.—This invention consists of arched ribs for seats, beds, &c., shaped and connected so as to produce flexible beams, a number of which are mounted by the aid of springs in the frames of chairs, sofas, car or carriage seats, &c., to form flexible sphero-form supports.

Claim.—First, the strips *a*, arched ribs *b*, and elastic support *c*, arranged as represented, whether the spring *c* be supported by a pin *d* or attached to the adjacent part for strip *a*, as and for the purpose specified.

Second, supporting the compound slats *a b c* on corresponding transverse compound supports *i*, so as to obtain an elastic action in both directions, substantially in the manner and for the purpose herein set forth.

Third, the elastic additional supports or stops *c′ d′*, arranged substantially as specified relatively to the compound slats *a b c*, for the purpose herein set forth.

Fourth, the knobbed or swelled springs *c q*, arranged to operate in combination with the strips *a* and arched ribs *b*, or their equivalents, in the manner and for the purposes substantially as specified.

No. 50,841.—I. N. PLOTTS, New York, N. Y.—*Belt Clasp.*—November 7, 1865.—This invention consists of an oblong frame having a central bar in the direction of its length, one or both of the outer bars being bent to form a flange at right angles to the central bar, the frame being concave at the side on which this flange is formed.

Claim.—The buckle plate A *a b*, made substantially as herein shown and described.

No. 50,842.—A. J. PRESTON, Dryden, N. Y.—*Hame Fastener.*—November 7, 1865.—This invention consists of a shell provided with a hook at one of its extremities and hooked teeth on its inner surface, and also of a sliding hook having corresponding teeth, together with a

sliding band, which being drawn to the centre of the device holds the two parts thereof firmly together.

Claim.—The combination of all the parts as described, except the ring F, and for the purpose of fastening hames.

No. 50,843.—HENRY REIMAN, Brooklyn, N. Y.—*Friction Match for Lighting Cigars, &c.*—November 7, 1865.—This invention consists of a strip of pasteboard immersed in a hot solution of chlorate of potash and nitre, and afterwards passed through rollers and cut in the shape represented in the drawings and tipped with friction composition.

Claim.—The preparation of pasteboard or other stock for friction matches with a compound solution of chlorate of potash and nitre, substantially as herein described.

No. 50,844.—G. W. RICHARDSON, Grayville, Ill.—*Harvester.*—November 7, 1865.—This invention relates to the manner of attaching the cutting apparatus to the drag-bar, whereby the operator is enabled readily to elevate or depress the points of the fingers and cutters to adapt them to the character of the ground over which they are drawn.

Claim.—As new, the rod E, in combination with the bars D E, connected by a joint *a*, when arranged in connection with the finger bar C, and bar G, and all applied to the main frame A, substantially as and for the purposes set forth.

No. 50,845.—JOHN J. RIDDLE, Cincinnati, Ohio.—*Vapor Gas Burner.*—November 7, 1865.—This burner consists of an upright flue in which the oil to be vaporized ascends. The flue is provided at its top with a nipple through which the vapor escapes to be burned. A needle passes up through the flue with a very fine point for keeping the nipple clear, and with blades for cutting soot out of the flue. The burner is made hot enough to vaporize the oil by burning alcohol placed around it in a cup.

Claim.—First, the needle *t*, shaped and operated as aforesaid, for the uses and purposes before mentioned.

Second, the holes Q, or their equivalent, placed at any point in the stem or flue *f*, within the body of the burner.

Third, the hot-air chamber *r*, or its equivalent, through which the air freely passes to holes Q, and mingles over nipple *d*, with the gas issuing therefrom.

Fourth, the plate G, or its equivalent, with one or more openings *c* in it, for the uses and purposes mentioned, substantially.

No. 50,846.—TIMOTHY ROSE, Cortlandville, N. Y.—*Pump for Oil Wells.*—November 7, 1865.—This invention consists of hollow globes to be placed in an oil well below the sucks of the pumps. These globes should be of a diameter about equal to that of the bore of the well, and be provided with holes in the direction of their centres. They are connected by a pipe which is connected to the barrel of the pump. The object of the globes is to draw to themselves currents from all directions when the pump is in operation, and thus produce a continual agitation, operated for the purpose of the paraffine transfused throughout the oil, that it may not adhere to the walls of the well and clog the crevices, and that it may not do other damage.

Claim.—The attaching or connecting to the lower end of the pipe or working barrel of pumps in oil or bored wells one or more globes with holes in the same, in the direction of the centre thereof, as above described, and for the purposes set forth.

No. 50,847.—ZIBA SAUNDERS, Tewksbury, Mass., and ABIEL F. SAUNDERS, Boston, Mass.—*Flour Sifter.*—November 7, 1865.—This invention consists of a shaft provided with a series of longitudinal rods or beaters revolving in elastic bearings attached to the sides of the box. The object of the elastic bearings is that they may yield when an obstruction is forced under one of the beaters and thus avoid injury to the apparatus.

Claim.—As an improvement in flour sifters the revolving shaft C′, carrying a series of rods or beaters D, in combination with a yielding bearing *b*, constructed and operating substantially as described.

No. 50,848.—FRANZ SCHWEIZER, New York, N. Y.—*Bolt-heading Machine.*—November 7, 1865.—In this machine there are arranged hurriedly across it from side to side, first, a series of jaws or dies working horizontally, which grasp the blank and hold it firmly; second, a series of dies which descend vertically, upset the end of the blank and assist in forming the head; and, third, another series of horizontal dies of V-shape, which operate against the sides of the head. The blank is cut off in the machine, and during the process of heading is carried from one set of dies to the other by means of a pair of tongs, the latter being attached to a bar which has a longitudinal reciprocating and also a vertically oscillating movement.

Claim.—First, the tongs *g*, with an adjustable jaw applied in combination with the longitudinally sliding head G and heading tools, in the manner and for the purpose substantially as herein set forth.

Second, supporting the head G by springs, as and for the purpose specified.

Third, the combination of a series of heading tools, dies, and clamping jaws, with the re-

ciprocating carrying head G, and cam *c*5, and tappet *c*4, constructed and operating substantially as and for the purpose described.

Fourth, the heading dies *h* with yielding jaws *h*°, constructed and operating substantially as and for the purpose set forth.

Fifth, the swinging levers *i i*1 *i*2, operated by cams *b***, and applied in combination with the clamping jaws and with the tongs *g*, substantially as herein described, whereby the bolts are automatically raised to such a position that the tongs can readily grasp them and carry them along to the next surrounding heading dies.

Sixth, the pusher *j* applied in combination with the heading dies *h'*, and carrying head G, in the manner and for the purpose substantially as herein set forth.

No. 50,849.—JOHN J. C. SMITH, Philadelphia, Penn.—*Car Spring.*—November 7, 1865.—This device consists of an assemblage or cluster of small convoluted spring units in themselves, and so combined that each cluster performs the office of a single spring.

Claim.—A car spring consisting of the combination or assemblage of the individual and comparatively small springs of convoluted or zigzag shape retained in their relative proximity, and operating substantially in the manner described.

No. 50,850.—JOHN J. C. SIMTH, Philadelphia, Penn.—*Car Spring.*—November 7, 1865.—This invention consists in the method of building up, putting together, and connecting a series of springs as shown in the engraving.

Claim.—First, the wires C C, which pass through the convolution of the spring pieces A.

Second, the wire or other washers which connect the said wires C C, and thereby tie the pieces A to each other.

Third, the method of securing the spring pieces A to the upper and lower plate, or to an equivalent frame or rods.

No. 50,851.—MILTON J. SMITH, Dansville, N. Y.—*Churn Dasher.*—November 7, 1865.—This dasher consists of two parts, one of which is horizontal and the other concave on the upper side and convex on the under side, both being perforated with holes perpendicular to their surfaces.

Claim.—First, the combination of the perforated and inverted trough-shaped portion A with the elevated frame B, constructed to operate substantially as described.

Second, the construction of the portion A with concave sides *a a*, having perforations *d* and *e* through them, substantially as described.

No. 50,852.—JAMES STANBROUGH, Newark, N. J.—*Buckle.*—November 7, 1865.—This invention consists of a buckle provided with two or more projections to fit into a corresponding number of holes in the strap which passes through the buckle.

Claim.—A buckle provided with two or more spurs or projections to fit into a corresponding number of holes in the part or strap which passes through the buckle, substantially as herein shown and described.

No. 50,853.—A. C. STONE, Steelville, Penn.—*Horse Rake.*—November 7, 1865.—This invention consists in attaching the thills which are placed below the axle to said axle by a hinge joint, so that when released and free to move, the axle with the teeth attached will be pulled forward and over by the power of the draught animal, thereby discharging the load.

Claim.—Attaching the thills or shafts B B to the axle by the bent arms *a a* hinged to the upper side of said axle, so that the load will be discharged from the rake by the power of the draught animal, substantially as herein described.

No. 50,854.—T. L. STURTEVANT, Boston, Mass.—*Cartridge Retractor for Breech-loading Fire-arms.*—November 7, 1865.—A forward prolongation of the trigger-guard lever in tilting up the rear end of the barrel on the depression of the lever, engages with a pivoted dog on the sliding cartridge retractor, thereby moving the same backward until the said dog in passing over a stud or pin permanently connected with the end of the barrel is raised up out of engagement with the end of the lever, and the cartridge retractor is thus allowed to fly back to its seat under the action of the spring.

Claim.—The combination and arrangement of the tripping stud *m*, the arm *k*, and the spring *l*, with the block *h* or the barrel *a*, the cartridge shell discharger F and the lever D.

Also, the combination and arrangement of the groove *f* and the stud *e'* with the barrel A and lever D, the cartridge shell discharger F, and the stud *m*, the arm *k*, and the spring *l*, arranged and applied to the said discharger and barrel substantially as specified.

No. 50,855.—ANDREW TANNOCK, Litchfield, Ill.—*Piston Packing.*—November 7, 1865.—This packing consists of two concentric rings and an intervening eccentric ring. The concentric rings are turned out at top and bottom to receive the piston head, and the eccentric ring is forced against the inner surface of the cylinder by the action of a wedge secured to one of the concentric rings. Neither steam, spring, nor screw is used to set out the packing rings, and all unnecessary pressure is avoided.

Claim.—The wedge *c* and eccentric rings *c'*, in combination with the projecting rings A A' and piston B B', constructed and operating substantially as and for the purpose specified.

No. 50,856.—NATHANIEL S. THOMPSON, Stoneham, Mass.—*Shoe-edge Burnishing Machine.*—November 7, 1865.—This invention consists in combining two uncut rings with an eccentrically cut ring, which is placed between the uncut rings, and is pressed out by means of a wedge placed upon the inner ring of the piston and by its own tendency to expand, caused by the fact that it is turned larger in diameter than the bore of the cylinder, and, after being cut apart, is pressed into the cylinder. The object of this arrangement is to simplify the piston by dispensing with all springs and bolts.

Claim.—The combination of the adjustable guide F with the burnishing wheel E, or the mechanical equivalent of such combination, substantially as and for the purpose specified.

No. 50,857.—R. S. TORREY, Bangor, Me.—*Drill-rod Attachment.*—November 7, 1865.—This invention consists in so forming a temper bar and screw for drilling purposes, and in so providing said temper bar with a hand wheel, wing swivel, and thumb latch, as to facilitate the tempering and jar of the drill, so as to render the machine more certain and effective in its action.

Claim.—First, the brace bar B, Fig. 6, or its equivalent, which connects the temper screw E with wing swivel G, Fig. 2, doing away with jam nuts, substantially as set forth, for the purpose described.

Second, the hand wheel F, Fig. 7, in combination with screw E and the ratchet head K, Fig. 7, as herein described.

Third, the wing swivel G, Figs. 4 and 5, and thumb latch I, Fig. 4, which makes the whole thing secure while the machine is in operation, the whole operating in the manner and for the purpose set forth.

No. 50,858.—Suspended.

No. 50,859.—ERASTUS TYLER, Hancock, Ill.—*Instrument for Gathering Apples.*—November 7, 1865.—This instrument consists of a handle and a sleeve, which slides over it. To the end of the handle is affixed a disk, having holes around the margin. To the end of the sleeve is attached another disk, through the centre of which the handle passes. To the latter disk are attached needles or points, which project beyond the disk attached to the handle. In use the points are thrust into the fruit, and by moving the sleeve the fruit is pushed off into the basket.

Claim.—An instrument for picking apples, having a perforated plate B, or its equivalent, a slide as described, and plate and pins C, or their equivalent, combined and arranged substantially as described.

No. 50,860.—PHILOS B. TYLER, Springfield, Mass., and WM. M. CHANDLER and L. F. STANDISH, Chicopee Falls, Mass.—*Manufacture of Friction Matches.*—November 7, 1865.—This invention consists in applying the friction composition to a strip of paper or other material, the composition being applied along the middle portion of the strip, or at different points on the strip. The match thus formed is placed in a case, and when required for use a portion of said match is caused to pass out, when it is ignited.

Claim.—The continuous or equivalent repeating match, composed of a strip of substance which, when ignited, will burn with a flame, combined with the preparation of sulphur and phosphorus, or the equivalent thereof, which will ignite by friction, put on along the whole length, or, as the equivalent thereof, in spots at given distances apart along the whole length, substantially as and for the purpose described.

Also, piercing the strips with holes, and applying the material that ignites by friction thereto, to prevent such material from becoming detached therefrom, all substantially as described, and in the apparatus for using continuous or repeating matches, the nose piece or tube through which the match passes, in combination with the vibrating igniter, or the equivalent thereof, substantially as and for the purpose described.

Also, in combination, the nose piece through which the match passes, the roller, or equivalent thereof, for moving the match, and the igniter, or the equivalent thereof, as and for the purpose described.

Also, in combination, the case for containing the match, the nose piece, the roller for moving the match, and the igniter, or the equivalents of them, as and for the purpose described.

No. 50,861.—LUCIAN UPHAM, Pawtucket, R. I.—*Hinge.*—November 7, 1865.—This invention consists in the arrangement of inclined planes upon the pintle of the part of the hinge secured to the post and along upon the inner side of the eye, in such a manner as to traverse the enclosure and shut the gate from either side.

Claim.—The combination and arrangement of the several parts A C B and D, when constructed and operated in the manner and for the purposes above set forth and described.

No. 50,862.—JOHN VALENTINE, Woodbridge, N. J.—*Scouring Brick.*—November 7, 1865.—This invention consists in the use of a mineral compound of silica, alumina, sul-

phate of iron, sulphuret of iron, sulphate of alumina, sulphate of magnesia, sulphate of lime, chloride of sodium, vegetable organic matter, water, and oxide of iron.

Claim.—A scouring brick composed wholly or in part of the pulverulent mineral which is herein described as Woodbridge silex.

No. 50,863.—DANIEL WARD and RUSSEL S. LUCE, Lawsville Centre, Penn.—*Fire and Burglar Alarm.*—November 7, 1865.—This invention consists of devices by which an alarm will be given in case of a fire occurring in any apartment of a building, or in case of a burglar entering through a door or window. An alarm is sounded, and indicates in what room of the building the fire is, and at the same time lights a candle or lamp.

Claim.—First, the bar B, provided with the arm E, in connection with the shaft F, having a lip or projection *f* and an arm G, all applied to or used in connection with an alarm mechanism, substantially as and for the purpose set forth.

Second, the spring H and the wheel or hub I, provided with the arm *j*, in connection with the rod or stop *k*, substantially as and for the purpose specified.

Third, the weights K, connected by cords *l* to pulleys *p*, around which cords *q* pass, with weights *r* attached, all arranged as shown, to operate the alarm in case of fire, as described.

Fourth, the plate C, attached to the upper end of the bar B, in connection with a suitable match holder, all arranged to operate as set forth.

No. 50,864.—THOMAS B. WAY, Bennington, Vt.—*Bottle Stopper.*—November 7, 1865.—This invention consists in making a recess in the neck of a bottle, in which is placed a rubber packing ring in order that a wooden stopper may be used.

Claim.—Constructing the head of a bottle, or the like, in such a manner that a packing of rubber or some other flexible material may be inserted and held therein, whereby wooden plugs may be used instead of corks, as heretofore, for stopping or corking soda-water, beer, and other bottles, substantially as shown and described.

No. 50,865.—J. H. WILHELM, Chicago, Ill.—*Hot-blast Furnace Lamp.*—November 7, 1865.—From reservoirs between the wicks, into which air is forced by the blow-pipe, the air flows by passages at the sides of the several wicks up to the point of burning. Over the wicks a cover or guide, with apertures at the bottom and sides, concentrates the flame.

Claim.—First, the combination of the air chambers V V′ V, with the air pipes 5 5 5, for the purpose set forth.

Second, the arrangement and combination of the coiled air pipe W with the air chambers V″ V′ V″, for the purpose set forth.

Third, the combination of the heat-concentrating blower L with the platform M, substantially as described and for the purpose set forth.

Fourth, the elongation of the air chambers V″ V V V″, terminating in the blow-pipes 2 2 2, substantially as described and set forth.

No. 50,866.—FREEMAN WINSLOW, Marblehead, Mass.—*Apparatus for Heating Soles and Shoes.*—November 7, 1865.—Upon the top of a case, in which is applied a lamp or a gas burner, is a metallic perforated disk, and in this disk are placed numerous short wires, on which the sole to be heated is laid.

Claim.—The combination of the series of wires *a a a*, &c., with the lamp or means of generating heat, and the plate A, or its equivalent, for supporting the said wires, the whole being arranged substantially as and for the purpose specified.

No. 50,867.—JOHN WOOLAVER, Suisun, Cal.—*Bottle Stopper.*—November 7, 1865.—This invention consists of a bottle having the opening in which the stopper is placed made at right angles with the opening in the neck. The stopper consists of a hollow metallic tube, having an aperture to correspond with the opening in the neck, one end of the said tube being closed and provided with a curved arm.

Claim.—First, the method of sealing the bottle by means of the tube D, or its equivalent, perforated to correspond with the hole B in the neck of the bottle, substantially as described and for the purpose set forth.

Second, the projection and groove I, in combination with the lever H with the button or disk G and the rings E E, arranged and operating substantially as described and for the purpose set forth.

No. 50,868.—JOHN WOOLAVER, Suisun, Cal.—*Instrument for Opening Bottles.*—November 7, 1865.—This invention consists of a pair of forceps, the jaws of which are kept open by means of a spring. To one of the jaws of said forceps is attached a leg, to which is secured a tube closed at one end and having an opening in the side. To the other jaw is attached a bar to prevent the cork from being pushed entirely out of the bottle. This instrument is intended to be used with the bottle.

Claim.—In combination with the forceps K, the perforated tube F, having an opening at one end and closed at the other, together with the bar E, substantially as specified and for the purposes set forth.

No. 50,869.—JOSEPH YATES, Mott Haven, N. Y.—*Machine for Rolling Gun Barrels.*—November 7, 1865; antedated October 25, 1865.—In this machine there is a segmental die roll attached to each end of two parallel shafts constituting two pairs of roller dies. The dies themselves are separate from the rolls, and are attached to them by means of both. A horizontal plate, with projecting pins arranged to properly guide the metal to the dies, is arranged in front of each pair of rollers.

Claim.—The arrangement of the segmental rolls C upon the extremities of the two shafts, and securing the dies to said rolls in the manner described, in combination with the adjusting screws F, the gauges J, and bed plates K, as and for the purpose set forth.

No. 50,870.—WALKER B. BARTRAM, Redding, Conn., assignor to himself and HENRY B. FANTON, Danbury, Conn.—*Button-hole Sewing Machine.*—November 7, 1865.—This device may be attached to a Wheeler & Wilson's machine. The bed-plate has a slight shifting motion to allow of sewing over the edge of the cloth, and has a fixed button, through which the needle passes, and a straight guide near the needle, the space between the two forming a passage for the cloth-holder, formed with parallel sides and some circular ends. This holder has pins on its upper surface for holding and carrying the cloth. The guides, as the cloth is fed, carry the cloth and turn it, so as to sew both sides of the button-hole. The bed-plate is shifted by an arm from the eccentric, actuating a notched wheel and catch. The feed may be stopped at will, when it is desired to straighten and bar across a square end of a button-hole.

Claim.—First, the combination of the arm H with the wheel I, and the eccentric of the driving shaft, or its equivalent, of a sewing machine, substantially as and for the purpose set forth.

Second, the combination of the wheel I with the arm H and the catch J, substantially as and for the purpose set forth.

Third, the combination of the catch J with the wheel I and the plate A, substantially as and for the purpose set forth.

Fourth, the combination of the cloth-holder O with the movable plate A and the circular plate N, substantially as described and for the purpose set forth.

Fifth, the combination of the guide P with the movable plate A and the cloth-holder O, substantially as and for the purpose set forth.

Sixth, the combination of the plate A with the wheel I and the springs L, or equivalent, to give an alternate backward and forward motion to the plate A, substantially as described and to the effect stated.

Seventh, the combination of the stop lever R with the feed bar of a sewing machine, substantially as described and for the purpose set forth.

No. 50,871.—J. O. BRYSE, St. Louis, Mo., assignor to himself and J. UTOSSY, Leavenworth, Kansas.—*Process for Coloring Photographic Prints.*—November 7, 1865.—This invention consists in imparting to photographic prints any one of the following colors, viz: flesh, vermillion, yellow, bland, brown, blue, and such others as may be desired, by means of chemical compounds in various proportions, in such manner that the tints shall be indestructible with respect to water, alcohol, or spirits of turpentine, and shall not be subject to fading from exposure to light.

Claim.—First, the manipulation of photographic prints herein described, and for the purpose specified.

Second, the preparation of colors and fixing them upon photographic prints, substantially in the manner described.

No. 50,872.—SANFORD A. HICKEL, Roane county, West Va., assignor to himself, C. and J. and B. F. ARMSTRONG, Jackson county, West Va.—*Tanning.*—November 7, 1865.—This invention consists in combining with the tanning materials ordinarily used horse dung or other manure, the proportion varying according to the quality of the hides to be tanned.

Claim.—The employment or use of manure, in combination with bark or other tanning material, substantially as and for the purposes set forth.

No. 50,873.—JOHN KEANE, assignor to himself and WM. J. SNYDER, New York, N. Y.—*Washing Machine.*—November 7, 1865.—This invention consists of a box to contain the suds and clothes, and has an abrading surface on the inside of its front, against which the clothes are brought by a frame capable of vertical and also of horizontal motion.

Claim.—First, in washing machines, the dasher H, fitted at its ends to move in grooves in the frame F, substantially as shown, in combination with the said frame, substantially as described.

Second, the dasher, constructed and operated as described, in combination with the roller G, substantially as above shown.

Third, the vibrating frame F, which carries the dasher H and roller G, in combination with the fixed washboard C, substantially as described.

No. 50,874.—RUDOLPH KECK, assignor to SIMON BACHE & CO., New York, N. Y.—*Method of Manufacturing Mirrors.*—November 7, 1865.—This invention consists in precipitating upon one surface of a glass plate nitrate of silver or other suitable substance from a solution, by depositing the plate edgewise in a vat, its face being separated from the face of an adjoining similar plate by a sheet of India-rubber or other bad conductor of electricity. The backs of the plates are uncovered, so that the metallic salt contained in the solution of silver may be uniformly precipitated thereon. On removing the plates from the bath, a coat of varnish is laid on the metallic coating.

Claim.—The within-described method of precipitating upon glass plates nitrate of silver or other suitable substance or substances, by means substantially such as herein described, or any other equivalent means.

No. 50,875.—HIRAM KILBOURN, assignor to himself and SYLVESTER P. BABCOCK, Waterloo, Iowa.—*Hot-air Engine.*—November 7, 1865.—This invention consists in the arrangement of the balanced valves with reference to the driving cylinder and air pump when driven directly by the piston rod of the working cylinder. It further consists in the arrangement of a sliding frame in connection with a pinion for converting the reciprocating motion of the piston into a rotating motion.

Claim.—First, the balanced valves P P U U, arranged respectively with the driving cylinder and air pump, and operated from the piston rod L, substantially as and for the purpose specified.

Second, the rack Y, attached to the sliding frame S, in connection with the pinion A and the spring C′, substantially as and for the purpose set forth.

No. 50,876.—ARNOLD KREUSLER and W. T. PELTON, assignors to W. T. PELTON, New Lebanon, N. Y.—*Apparatus for Distilling Spirits.*—November 7, 1865.—This invention consists in applying the heat of the vapor from the still in the re-evaporation of the spirit until it is entirely separated from the liquid that passes over with it from the still. The vapor from the still passes over into a condenser, which is surrounded by a tub containing mash. A portion of the spirit is condensed, and the uncondensed portion passes into a box where another portion is condensed, and returns through a pipe to the upper part of the condenser. The vapor passes on to one vessel, and then into two other vessels, the latter containing a composition for removing the fusel oil from the spirit. The vapor then passes into the condenser, after which the spirit passes out through a tube, which is bent, so as to prevent the escape of any vapor.

Claim.—First, the rectifier *b*, with the plates 11, 12, and 13, for the purposes and as set forth.

Second, the spiral dephlegmator *e*, constructed and acting as set forth.

Third, the rectifier *n*, constructed in the manner and for the purposes specified.

Fourth, the spiral dephlegmator *p*, constructed in sections, as and for the purposes specified.

Fifth, the water partitions in the tub containing the dephlegmator *p*, constructed so as to allow the water in different parts of the tub to be different in temperature, as set forth.

Sixth, the bent pipe and cock *u*, at the lower part of the condenser, to retain a portion of the alcohol in the condenser, or allow it to be entirely emptied, as and for the purposes set forth; and, in combination therewith, the pipe *v* for the escape of gases, said pipe passing through the condensing water, as set forth.

No. 50,877.—FRANK KUNKEL, assignor to WILLIAM B. MILNE, Chicago, Ill.—*Manufacture of Soap.*—November 7, 1865.—This invention consists of a composition, to be used in the manufacture of soap, the said composition being prepared by boiling potatoes in lye until a perfect combination is effected, after which a small quantity of creosote is added. Chloride of lime may be combined with the composition if desired.

Claim.—First, the process herein described of treating potatoes which have been previously boiled with the skins on with an alkali and subsequent boiling, substantially as set forth.

Second, the compound or composition of matter formed of boiled potatoes, alkali, and creosote, or other antiseptic, substantially as and for the purposes set forth.

No. 50,878.—C. A. MILLS, Bristol, Conn., assignor to the EUREKA MANUFACTURING COMPANY, Boston, Mass.—*Coffee Roaster.*—November 7, 1865.—The screen or sieve of wire cloth in which the coffee is roasted is revolved by machinery, operated by a clock movement. Over the screen is a metallic cover to preserve the aroma. Over the outer end of the screen a cover fits closely, and through it the axis passes, and is held in place by a pin.

Claim.—First, a rotating coffee receptacle in which coffee is roasted, constructed of a wire cloth, so as to form a screen or sieve when said receptacle is rotated or operated through the medium of a clock movement, substantially as shown and described.

Second, in combination with the coffee receptacle, constructed as set forth, the lid or cover K, arranged to fit over the receptacle, as described.

Third, the application of two springs E E to the clock movement, when the latter is used in connection with or to drive a rotating coffee receptacle, substantially as and for the purpose specified.

Fourth. the applying of the coffee receptacle to the device by having a socket I at one end of the shaft H of the clock movement to receive one end of the shaft J of the coffee receptacle, while the journal at the opposite end of said shaft is fitted in an open bearing *c*, substantially as described.

No. 50,879.—DAVID M. OSBORNE, assignor to himself and WM. A. KIRBY, Auburn, N. Y.—*Pitman Connection for Harvesters.*—November 7, 1865.—The object of this invention is to remedy the difficulty in this class of machines resulting from the necessarily rapid motion of the cutter, viz: the wear and consequent rattling of the connection of the pitman with the cutter bar. The device for the purpose will readily be understood from the claim and engraving.

Claim.—Connecting the pitmen of harvesting machines to the head of the cutter bar or cutters, or other connecting bars to their supports, by means of conical lugs fitting into conical seats, and a draw or screw bolt passing through said lugs and seats in the line of their apices, substantially as and for the purpose described.

No. 50,880.—DAVID M. OSBORNE, assignor to himself and WM. A. KIRBY, Auburn, N. Y.—*Pitman Connection for Harvesters.*—November 7, 1865.—The pitman has a hollow shank formed or wrought upon it, over which a sleeve is slipped. The opening in the sleeve through which the shank passes, and the shank itself, are made square or many sided to prevent the sleeve from turning, and the two are held firmly together by a bolt. By this construction the sleeve, which forms the wrist pin, may, when it becomes worn, be readily removed and replaced by a new one.

Claim.—A wrist pin composed, first, of a hollow square or sided shank wrought on or securely fastened to the pitman or other connecting bar or rod; second, a sleeve having a cylindrical perimeter, and a square or sided opening to fit over the shank; and, finally, a through bolt to hold the sleeve to the shank; all arranged, constructed, and operating in the manner and for the purpose described.

No. 50,881.—THOMAS J. PARKE, Philadelphia, Penn., assignor to himself, J. BRYAN, T. GILLESPIE, and E. A. HINTSICKER.—*Well Boring.*—November 7, 1865.—This invention consists of a case or cylinder, with openings in its upper end, containing a piston and a rod, which is secured at the upper end to the piston, and at the lower end to the drill. The water in the well flows through the opening into the case, above the piston, and serves as a cushion to relieve the drill from the concussions and strain which are so detrimental to the drill when the same is rigidly secured to the operating apparatus.

Claim.—The case A, with its openings *e e*, piston D, and rod C, combined and operating with a drill or cutter, substantially as and for the purpose specified.

No. 50,882.—HENRY S. SHEPARDSON, Shelburne Falls, Mass., assignor to H. S. SHEPARDSON & CO.—*Car Coupling.*—November 7, 1865.—This invention consists in a peculiar form of the tumbler or lock, which is automatic in its operation, and also in the use of spring to facilitate its operation.

Claim.—The combination of the shackle bolt B, and latch C, with the shackle case of a railroad car, substantially as described.

Also, the shackle bolt B, when constructed with the tail *b*, substantially as and for the purpose described.

Also, the shackle case A, when provided with the openings F, in combination with the shackle bolt B and latch C.

No. 50,883.—FRANÇOIS CARRÉ, Paris, France.—*Bed Bottom.*—November 7, 1865; patented in France, July 4, 1862.—This invention consists of a metallic frame, with T-shaped cross-bars, elliptic springs, the ends of which fit in mortises in the frame, with longitudinal elliptic bars on which the mattress or bed is to rest.

Claim.—As new, the spring, constructed in the manner and for the purpose above described.

No. 50,884.—CARL JOHANN FALKMAN, London, England.—*Apparatus for Purifying Alcohol.*—November 7, 1865; patented in England November 29, 1864.—This invention consists in passing the vapor from a still through a serpentine channel filled with animal charcoal or other substance. The said channel is surrounded by a tank containing cold water. The fusel oil and watery parts of the vapor are condensed in passing through the channel, and fall through the perforated bottom, while the alcoholic vapor passes on to the condenser.

Claim.—The within described apparatus, composed of the serpentine channel A, jacket J, perforated bottom B, and receptacle C, with suitable supply and discharge pipes, constructed and operating substantially as and for the purpose specified.

No. 50,885.—ALFRED PARAF, Mullhouse, France.—*Printing and Dyeing Cotton, Linen, &c.*—November 7, 1865.—This invention consists in impregnating the cloth with a mixture of half an ounce of arsenious acid, five ounces of chlorate of potash, and one gallon of boiling water, after which the cloth is dried without washing. The cloth is then printed or dyed with a

composition of one part of muriatic aniline and one part of hydro-fluosilic acid. After printing the cloth is placed in a damp room, which is kept at a temperature of 90°, until a dark olive green shade appears, after which the cloth is passed through an alkaline solution, which produces the required shade.

Claim.—The producing an aniline black upon fabrics or yarns by the action of chloric acid and free chlorine upon aniline or its homologues, or any mixture of the same, as herein described, or any modification thereof.

No. 50,886.—WILLIAM TAYLOR, East Zora, Canada.—*Carriage Spring.*—November 7, 1865.—This invention consists of a compound bow and scroll spring placed upon the outer end of an axle, and a semi-elliptic spring, one end of which is located near the collar of the axle, whence the spring extends toward the centre of the axle, its straight part lying thereon. Near the centre of the axle the straight part of the spring bends outward, forming a scroll, the outermost curve of which stands quite near the spokes of the wheel, and is connected at its end with the semi-elliptic spring.

Claim.—The compound bow and scroll spring B, in combination with the elliptic spring D, constructed and applied for the purposes and substantially as described.

No. 50,887.—HORACE T. LOVE, Vermillion township, Kansas.—*Auger.*—November 7, 1865.—This invention consists in forming the cutting floor lips of an auger semi-circloid in form on their cutting edges, and also in making their floor-cutting edges at an obtuse angle with the axis of the auger.

Claim.—The semi-circloid edges; the angles of deflection and inflection in disposing these edges in their relation to screw and periphery of the auger, and the combination of these edges with an obtuse angular disposition of them in their relation to the axis of the auger, as and for the purposes substantially set forth in the foregoing specification.

No. 50,888.—FRANCIS ARNOLD, Haddam Neck, Conn.—*Vegetable Washer.*—November 14, 1865.—This invention consists of a tub provided with a vertical central shaft, said shaft being provided with a radial arm near its lower end, in such manner that said arm is wholly within the tub. This shaft having been set in rotation, agitates by means of its arm the vegetable or other contents of the tub, (which is supposed to have been previously supplied with water,) and thus cleanses them. A grating is placed over part of the top of the tub for the draining off of the water.

Claim.—The arrangement of the grate C with the tub A and shaft B, as and for the purpose specified.

No. 50,889.—L. A. ASPINWALL, Watervliet, N. Y.—*Potato Digger.*—November 14, 1865.—This invention consists of a vibrating screen or screens suspended in the rear by hangers from the same line of axis as the plough arms, and in front upon rollers under the plough, the front end of the side bars which traverse the rollers being so formed as to give them an upward lifting movement as the screens move from the front to the rear, the screens vibrating alternately with each other.

Claim.—A vibrating screen or screens, suspended in the rear by hangers from the same line of the axis as the plough arms, and in front upon rollers under the plough, the front end of the side bars, which traverse the rollers, being so formed as to give them an upward lifting movement as the screens move from the front to the rear, the screens, when two are used, vibrating alternately with each other.

No. 50,890.—L. A. ASPINWALL, Watervliet, N. Y.—*Potato Planter.*—November 14, 1865.—A revolving metallic bottom to the hopper is furnished with two valves, which, upon passing the seed tube, are opened by a trip so as to allow a potato to pass through.

Claim.—First, the construction and arrangement of the chambers attached to the revolving plates with their trap valves.

Second, the trip for opening the valves and discharging the potatoes.

No. 50,891.—S. B. BACHELOR, Lowville, N. Y.—*Scythe Snath.*—November 14, 1865.—This snath is composed of three distinct pieces of timber, instead of one piece, thereby saving the waste of all pieces not five and one half feet in length between knots now incurred in the manufacture through the practice of making the whole snath of one piece.

Claim.—A scythe snath constructed of two or more pieces of crooked timber, joined together, substantially in the manner and for the purpose herein described.

No. 50,892.—WILLIAM B. BILLINGS, Brooklyn, N. Y.—*Coal-oil Lamp for Cooking Purposes.*—November 14, 1865; antedated September 11, 1865.—The water bath is insulated from and placed above the oil-holder; the wick passes through the former, and down into the latter. Auxiliary wicks from the water bath at the sides of the burning or oil wick, supply moisture to keep it cool and prevent melting. The edges of the wick tube are serrated to give larger space for burning.

Claim.—First, the water bath B, constructed with the no chimney burner, for cooking and heating purposes, substantially as described and set forth.

Second, the insulation of the water bath B, from the oil vessel A, substantially as described and for the purposes set forth.

Third, the wick tubes *c* and *d d*, fastened and attached to the water bath B, the whole being separate from, yet adjusted to, oil vessel A, substantially as described and for the purposes set forth.

Fourth, the slots or notches *e e e*, in the wick tube *c*, or their equivalent, when used with the side water sinks *d d* and water bath 13, arranged and connected substantially as described and set forth.

No. 50,893.—JOHN BLACKIE, Washington, D. C.—*Ejector for Deep Wells.*—November 14, 1865.—This invention consists of a series of chambers placed vertically above each other, into which the liquid is made to ascend by successive steps, by the application alternately to each of an exhaust, and the pressure of a column of air or steam.

Claim.—First, a pump consisting of a series of chambers in combination with the sectional tubes E, provided with valves *e* and one or more tubes constructed and arranged to operate substantially as and for the purpose herein set forth.

Second, the process or method herein described of elevating liquids, by means of an alternate pressure in one set of chambers, in combination with a vacuum in the corresponding chambers, or by means of a pressure in one set of chambers alternating with the removal of the atmospheric pressure in the other set of chambers.

Third, in combination with the pump herein described, the use of heated air as and for the purpose set forth.

Fourth, in combination with the pump, constructed as described, the use of a steam jet for the purpose of exhausting the air therefrom, substantially as set forth.

No. 50,894.—W. E. BOND, Cleveland, Ohio.—*Fruit or Step Ladder.*—November 14, 1865.—This invention consists in constructing the sides of step-ladders of a chord on the upper and one below, united at the ends, and the steps, which are all cut at the same angle, are secured to the sides so as to form a truss on each end of the steps; the object being to obtain a light but strong structure.

Claim.—First, the chords A and arches B, in combination with the steps A′, constructed and arranged in the manner and for the purpose set forth.

Second, in combination with the above, the making the steps narrower in the rear than in front, in combination with the chords, substantially as and for the purpose set forth.

No. 50,895.—DANIEL K. BOSWELL, Corinth, Miss.—*Drying Apparatus.*—November 14, 1865.—This invention consists of a drying chamber comprising a central chamber, and one or more wings hinged thereto, and mounted on wheels or casters for the purpose of ready access to the chambers and for removal from place to place. On one side is a suitable provision for drying clothes and on the other for drying fruits, &c. In the central chamber is a stove and apparatus for heating.

Claim.—First, a drying-house or apartment comprising a central chamber B, and one or more wings A C hinged to said chamber and mounted on suitable wheels or casters *e*, for the purpose of ready access to the apartment and easy removal from place to place.

Second, the suite of vertically separated chambers or compartments A B C, capable of being readily unshipped from one another for the purpose set forth.

Third, the arrangement of furnace or heater Q R R′ R″, placed centrally of the apartment and near the floor thereof, air inlets K and deflector S, for the equal heating and ventilation of every part of the apartment in the manner set forth.

Fourth, the arrangement of connected valves J and L, for simultaneous floor and ridge ventilation.

Fifth, the arrangement of flexible rod H, link C, and hole C′, for the ready hanging and unhanging of the clothes, in the manner explained.

No. 50,896.—WILLIAM BOWDEN, White Corners, N. Y.—*Tool for Removing Obstructions in Oil Wells.*—November 14, 1865.—This invention consists in making a hollow cylindrical tool, open and funnel-shaped at its lower end and having a tapering bore in its lower part and a cylindrical bore above the taper and a screw-head for connecting the same with tension rods, in combination with metallic balls for the purpose of removing broken drills, reamers, or other obstructions from deep wells.

Claim.—A cylindrical tool A B, having a flaring mouth *a′* and taper core *a*2, in combination with metallic balls C, or equivalent, for the purpose and substantially as described.

No. 50,897.—FREDERICK BRACKETT, Calais, Me.—*Pen-holder.*—November 14, 1865; antedated November 5, 1865.—A guide rod is fitted to the side of the pen handle, so that it can be slipped down and used when ruling to keep the inked portion of the pen from soiling the ruler.

Claim.—The construction of the double tube pen-holder attachment *d e* and the adjustable spring guide rod *f g h i*, combined with an ordinary pen handle, substantially as set forth, shown, and described.

No. 50,898.—ERASMUS D. BROWN, Buffalo, N. Y.—*Adjusting the Packing of Pistons in Deep Wells.*—November 14, 1865.—The packing of the piston is arranged between metallic sleeves, and may be compressed by turning the piston rod, the lower end of the piston being held by a connection with the cage of the foot valve, which may be readily arranged and disarranged at the will of the operator.

Claim.—So constructing the lower end of the screw follower D and the upper end of the foot valve E, as that they may be coupled together and the packing adjusted through the pump rod, in the manner and for the purposes substantially as described.

No. 50,899.—GEORGE BROWNELL, Mitchell, Ind.—*Claw Bar.*—November 14, 1865.—This invention consists in attaching to an ordinary claw bar a shackle so constructed as to be used either as a fulcrum or as a claw to draw the spike from the opposite side of the rail, or when it has been driven in a narrow depression.

Claim.—First, the bar A, in combination with the rib C′, and shackle E F G, as and for purposes set forth.

Second, the combination of the shackle E F G *g*, with the shoulders D and bar A, when constructed and arranged to operate as explained.

No. 50,900.—JOHN A. BURNAP and JAMES H. MELICK, Albany, N. Y.—*Shingle Machine.*—November 14, 1865.—This invention consists in securing the bolt in place by means of dogs that are operated by bars, pins, springs, and stops so arranged as to work automatically with the motion of the machine; also in the means of operating the carriage and canting the bolt so as to saw "butts and points" alternately.

Claim.—First, the apparatus for working the dogs, to wit, the bars *b b d d*, the slots *g*, pins *p*, springs *i*, and the stops M, constructed and operating together as described.

Second, the apparatus for moving the carriage C to and from the saw S, to wit, the shaft N, with the cog wheels F, rack teeth *v* of the carriage, the weight and cord or chain Z, the coupling clutch Q, wheel R, bell cranks L and V, tripping arm *h*, with its adjustable plate W, springs *f* and *u*, and tripping pin *w*, constructed and operating together as described.

Third, the apparatus for canting the bolt-bed, to wit, the bell cranks *j* and *k*, with the pins *m* and *n*, guide groove *p*, and tripping pin Y, constructed and operating together as described.

Fourth, the combination of the apparatus for working the dogs, that for moving the carriage to and from the saw, and that for canting the bolt-bed, substantially as the same is described and set forth in the within specification.

No. 50,901.—R. WILSON CARR, Baltimore, Md.—*Hair Restorative.*—November 14,1865.—This invention consists in combining the expressed juice of common onions with an alcoholic tincture of the residuum or pulp thereof, and flavoring the compound with the oils of rosemary, bergamot, and lemon.

Claim.—Combining the expressed juice of the onion with the alcoholic tincture of the residuum or pulp thereof, as above set forth, and flavoring the compound with the oils of rosemary, lemon, and bergamot, as herein described; and also using the same as a hair preserver and restorative, as herein specified.

No. 50,902.—PAUL CASAMAJOR, New York, N. Y.—*Mode of Operating Oil Wells.*—November 14, 1865.—This invention consists in extending from a central vertical main well a series of radiating drills, in a horizontal or inclined position, in such a manner that a communication is effected between the several crevices situated outside the main well, and not otherwise in communication therewith, and all the oil contained in a certain tract of land can be collected in the main well, and raised in one and the same pump, without the necessity of sinking a large number of wells and removing the pump from one well to another.

Claim.—The within-described method of operating oil wells, by extending from the main well A a series of radiating drills or channels *d* in a horizontal or inclined direction, substantially as and for the purposes set forth.

No. 50,903.—PAUL CASAMAJOR, New York, N. Y.—*Mode of Operating Oil Wells.*—November 14, 1865.—This invention consists of an oil well composed of a vertical or main shaft, with a series of horizontal or oblique galleries, and a series of drills extending from said galleries in a vertical or oblique direction. The main shaft terminates above the rock which contains the oil, and is provided at its bottom with a reservoir, in which all the oil rising through the drills collects, and whence it can be easily raised to the surface by a suitable pump. By these means all the oil contained in a large tract of land can be collected in one and the same reservoir, and all the secondary wells formed by the vertical or oblique drills can be converted into the flowing wells, their depth being comparatively small, so that the labor of pumping is materially reduced by having one large pump to raise the oil from the reservoirs.

Claim.—An oil well composed of a main shaft, which terminates at a suitable distance above the rock containing the oil, and from which galleries extend in a horizontal or oblique direction, in combination with drills sunk from said galleries in a vertical or oblique direction, substantially in the manner and for the purpose set forth.

No. 50,904.—ABRAM and GEORGE W. CAYWOOD, Ithaca, Ohio.—*Boot Crimp.*—November 14, 1865.—This invention consists in a boot crimp composed of a mould having a pair of hinged cheeks, provided with a flexible and adjustable connection, in combination with a jointed or hinged form.

Claim.—First, the combination, substantially as described, of a jointed or hinged form, operating in conjunction with a hinged and yielding mould.

Second, a boot crimp, composed of a mould having the pair of hinged cheeks J and J′, having a flexible and adjustable connection, when combined with a hinged form A B, in the manner set forth.

Third, the arrangement of rod I and hinged form A B, as described.

No. 50,905.—JOHN CHASE, Windsor Locks, Conn.—*Apparatus for Carburetting Air.*—November 14, 1865.—This invention consists of a vessel having within it a wheel attached to a shaft, which is inclined at an angle of 45°, and supported by suitable bearings attached to bars. The said wheel is composed of two conical heads united by means of a short tube. In the space between the heads are arranged plates, dividing the same into a series of chambers, which extend from the outer edges of the heads to the connecting tube. These plates are bent around the axis of the heads. Across the open space in one of the heads is a perforated plate forming a chamber, which communicates with the inner ends of the other chambers by means of perforations. Upon the outside face of the head-plate is secured a bell-shaped cap, forming a chamber, which communicates with the inner ends of another chamber by means of apertures. This cup is open at its outer end, and through said opening and a central tube passes a shaft, which is surrounded by a perforated sleeve, the interior of said sleeve communicating with the discharge pipe.

Claim.—The chambered wheel B, constructed, arranged, and operating substantially as described, for the purpose specified.

No. 50,906.—MARTHA P. CODMAN, Boston, Mass.—*Drinking Cup for the Sick.*—November 14, 1865.—This cup is provided with a partial covering over its mouth, and a tube projecting therefrom in such manner that a sick person lying down can drink from it comfortably without raising the head.

Claim.—The application of a tube to a drinking vessel, constructed with a partial covering, as described, in the manner substantially as described.

No. 50,907.—B. D. COLES AND A. D. COLES, Newark, N. J.—*Retort for the Manufacture of Prussiate of Potash.*—November 14, 1865.—This invention consists of a cylindrical retort, to the inner surface of which are attached double V-shaped ribs, in such a manner that the charge will be thrown towards the centre, and may be removed by means of a shovel.

Claim.—First, the double V-shaped ribs *b*, arranged in the interior of the retort A, substantially in the manner and for the purpose described.

Second, the employment of a cylindrical retort with rounded corners and tubular gudgeons, substantially as and for the purpose set forth.

No. 50,908.—H. A. COOK, Hillsdale, N. Y.—*Attaching Teams to Farming Implements.*—November 14, 1865.—The object of this invention is the prevention of damage when farming implements in motion come in contact with obstructions. To this end the point at which the draught power is applied is made to yield and undergo a forward motion independently of the machine, by means of a rubber spring, when resistance is met with.

Claim.—The combination of the rubber spring compressed between two transverse bars, the temper screw for regulating the elasticity of said springs, and the attaching staples and hooks or rings, all arranged to operate as and for the purposes described.

No. 50,909.—B. F. COWAN, New York, N. Y.—*Pocketbook.*—November 14, 1865.—This invention consists of a serrated or roughened strip to be attached to pocketbooks, or in roughening the frame of a pocketbook in order that said strip or frame may catch in the side of the pocket whenever an attempt is made to pick it. The owner is supposed to be able to draw his wallet without difficulty.

Claim.—Attaching to portmonnaies, pocketbooks, memorandum books, &c., a serrated or roughened metallic strip or plate, or roughening the frames of portmonnaies, &c., substantially as and for the purpose herein shown and described.

No. 50,910.—JOHN R. CROSS, Chicago, Ill.—*Packing for Oil Wells.*—November 14, 1865.—The packing is placed between two rings which are fitted loosely on the well tube and made adjustable by means of rods extending to the surface. The upper ring is secured in position by means of pawls which impinge on the sides of the well, and are operated by means of the rods attached to them and extending to the surface. To the lower ring is attached rods which extend loosely through the upper ring to the surface, and serve to draw the ring upwards, thus compressing the packing between the rings, and against the sides and tubing of the well.

Claim.—The combination of the pawls D D, with or without the wires *a a*, pivoted to the

ring A, to form a toggle-joint, fibrous packing C, and ring A, with suspension rods or wire ropes *f f*, arranged and operating substantially as and for the purposes shown and described.

No. 50,911.—WILLIAM H. CULP, Hammondsville, Ohio.—*Pump.*—November 14, 1865.—The piston head consists of a disk or annulus having a central part upon which sits a caged ball valve, the upper and the under side of the disk being concave, and a packing surmounting said disk. This piston head is united by bolts passing through it to a flange surrounding the lower end of a hollow piston rod, space being left between the piston head and the hollow rod to permit the entrance of water above as well as below the piston head, there being an upper as well as a lower interior valve to the pump cylinder.

Claim.—First, the piston head C, in combination with bolts F, and hollow piston rod D, substantially in the manner described.

Second, the piston head C, constructed and operating substantially in the manner and for the purposes herein set forth.

No. 50,912.—GEORGE W. DALBEY, Wheeling, West Va.—*Bellows.*—November 14, 1865.—A box has a horizontal partition at its centre, in the centre of which partition a valve opens upward. In the centre of each compartment thus formed a horizontal flexible diaphragm is attached to the sides, each diaphragm narrowing towards its centre to about half its diameter, where it is made rigid, the upper centre being weighted, the lower having a valve spring upward. A spring between the upper diaphragm and the top of the box maintains a pressure on that diaphragm and induces the flow therefrom. An exterior frame, moving vertically, lifts and depresses the two diaphragms simultaneously, the air being received first into the lower compartment and thence into the upper one, whence it passes under constant pressure through the nozzle.

Claim.—The combination and arrangement of the parts, consisting of the box A, with its perforated and valved partition, the valve plunger D, weighted plunger C, and springs *e*, the motion being derived through the lever H and frame E F *i j*, substantially as described and represented.

No. 50,913.—JOHN DAVIS, Alleghany City, Penn.—*Grain Separator.*—November 14, 1865; antedated November 2, 1865.—This invention consists in an arrangement and combination of screens and fans with a vertically adjustable distributing cone and hopper.

Claim.—The arrangement of the fan *p*, screens *u* and *m*, distributing cone K, and hopper *b*, furnished with lugs *n*, screws *c*, flange *i'*, and part *j*, the whole being constructed, arranged, and operating in the manner and by the means described, and for the purpose set forth.

No. 50,914.—JOHN DAVIS, Alleghany City, Penn.—*Grain Drill.*—November 14, 1865; antedated November 2, 1865.—This invention consists of a novel arrangement and combination of the supports and hangers of the wheel of the drill, so as to readily adjust the drill teeth to the proper depth in the soil.

Claim.—The arrangement of the supports *m*, hangers *q*, wheels 6, 5, 4, 3, 2, and 1, used in connection with the rollers A, sheath B, and hoppers *h* and *h'*, the whole being constructed, arranged, and operating substantially as herein described and for the purpose set forth.

No. 50,915.—JOHN DAVIS, Alleghany City, Penn.—*Broadcast Seeder.*—November 14, 1865; antedated November 5, 1865.—In this machine the hoppers, seed tubes, and cultivator teeth are adjustable to any required distance upon the axle which passes through them. The tube has a telescopic method of elongation. The teeth are hollow and fit over the end of the tubes, to which they are pivoted at their rear edges.

Claim.—The arrangement of the pieces *g g*, hoppers *h h*, teeth *f f*, with extension *p*, scrapers *l l*, shaft *j*, rollers *x x*, sheaths *y' y'*, wheels *q* and *r*, and index *m*, the whole being constructed and arranged substantially in the manner herein described and for the purpose set forth.

No. 50,916.—JOHN DAVIS, Alleghany City, Penn.—*Broadcast Seeders.*—November 14, 1865; antedated November 5, 1865.—This invention consists in an arrangement for regulating the capacity of the seed cells of seed rollers, involving the use of strips of gum or leather placed in a groove or grooves made in the rollers for the purpose of forming said seed cells.

Claim.—The use of gum or soft leather strips placed in the grooves of seed rollers, used in connection with a hopper and driving gear for operating said rollers, substantially as herein described and for the purpose set forth.

No. 50,917.—JOB S. DAWLEY and JOHN BLOCHER, Buffalo, N. Y.—*Thread Waxing Attachment for Sewing Machines.*—November 14, 1865.—The needle thread is not waxed until after it has passed through the fabric, and the shuttle thread receives its wax from the needle thread, the closed door of the shuttle preventing any wax from getting inside. The liquid wax is automatically and steadily forced up from a reservoir to deliver the proper supply into a shallow concave in the shuttle race. The shuttle is cleared of any adhering wax by coming in contact with a felt or cloth wiper saturated with benzine.

Claim.—First, maintaining by a proper feeding device a supply of wax in a liquid or semi-liquid state, at or near the needle-throat, for the purpose and substantially as herein described.

Second, the combination with the wax-holding cylinder or reservoir of a movable piston or bottom, for the purpose and substantially as herein described.

Third, the combination with the cylinder and piston of automatic wax-feeding mechanism, operating in the manner and for the purpose described.

Fourth, the wax receptacle *f* 3, formed at or near the needle-throat, for the purpose set forth.

Fifth, the wax receptacle *f* 3, in combination with the closed shuttle D′, for the purposes and substantially as described.

No. 50,918.—FERDINAND DICKERSON, Jr., Hartford, Conn.—*Wagon Shaft Shackle.*—November 14, 1865.—This invention has for its object the tightening of the joint of a wagon shaft shackle when necessary, and to this end it consists of a tapering screw bolt inserted in a tapering hole made throughout the whole length of the joint. The screw bolt is secured in the hole by means of a nut. By turning the bolt and tightening the nut the desired object is accomplished.

Claim.—A tapering bolt *c*, having the screw cut the entire length, in combination with the hinge-straps *a b*, washers *e x*, and nut *i*, substantially as and for the purpose described.

No. 50,919.—M. J. DICKERSON, Titusville, Penn., and JACOB STUBOR, Utica, N.Y.—*Tubular Apparatus for Deep Wells.*—November 14, 1865.—In this apparatus four concentric circles are shown. The first the pump cylinder, within which the piston works; the second descends far enough below the surface to hold the seed bag packing between its lower end and the wall of the well; the third is the wall of the well; the fourth is a driving tube which descends to the first stratum of rock, which it rests upon, forming, of course, a larger circle than the wall of the well. A tube thus descends through the first space outside of the pump cylinder instead of through the seed bag, as in other apparatus, and the gas or air ascends through this space, which has a cock at the top to regulate the flow.

Claim.—First, the formation of a surface water chamber, separate from the eduction tube, by means of the application and use of a packing tube C, driving tube A, and seed bag or other packing D, for the purposes and substantially as described.

Second, the combination and arrangement of a steam pipe J, stopcock K, and packing tube C, substantially as described.

No. 50,920.—J. P. DORMAN, Galesburg, Ill.—*Bedstead.*—November 14, 1865.—This invention consists in the construction of a bedstead that may be used for adults or as a cradle for children, by the application of a spiral spring, pulleys, and India-rubber springs.

Claim.—First, the construction of a bed having a spiral spring, D, so arranged in combination with the arrangement of elastic India-rubber springs C, head piece A, pulley wheels *a* and *a′*, cord *c*, and framing *b*, whereby a soft and easy motion is given to the bed, substantially in the manner and for the purpose set forth.

Second, the arrangement of the treadle *d* and cord *d′* with the framing *b′*, in combination with the India-rubber springs C and spiral spring D, substantially in the manner and for the purposes set forth.

Third, the arrangement of the chair H, chamber *h*, and leg *f*, in combination with the head or foot pieces A and B, substantially in the manner and for the purposes set forth.

No. 50,921.—JAMES J. DOYLE, Sharon, Conn.—*Beefsteak Crusher.*—November 14, 1865.—This invention consists in the use of two toothed cylinders, supported and acting in a frame.

Claim.—A beefsteak crusher, formed by combining the cylinders E and H, constructed substantially as described with each other and with the frames, substantially as described and for the purpose set forth.

No. 50,922.—J. K. DUGDALE, Richmond, Ind.—*Washing Machine.*—November 14, 1865.—This invention consists in the employment of frames in which washboards are arranged in such a way as to afford sufficient friction for washing the clothing. The frame and rubbers are designed to be set in a common wash-tub.

Claim.—First, the arrangement and combination of the frames A B and C, with the guides D, and washboards E and F, as and for the purposes set forth.

Second, the device K, in combination with frames A B and C, and washboards E and F, as and for the purpose specified.

No. 50,923.—GEORGE DUNHAM, Unionville, Conn.—*Nut Machine.*—November 14, 1865; antedated July 1, 1865.—In this device instead of fixing the punch rigidly in the sliding stock it is attached to a supplementary one, capable of sliding on ways attached to the former. Between the two are two stout spiral springs which allow the punch to yield, should any unusual strain come upon it by a nut becoming misplaced, so that the punch could not enter the hole therein, to enlarge and finish which is the principal duty of said punch.

Claim.—The yielding clamp B, composed of jaws *a a* grasping the rod or mandrel C, so arranged in a nut machine that when the mandrel shall fail, by the wrong presentation or faulty shape of a nut, to enter the hole in the same, the clamp B shall recede in the stock A by the collapse of the springs D D, and the mandrel be saved from fracture or deflection, the whole arranged as described and represented.

No. 50,924.—SAMUEL EDDY, Brooklyn, N. Y.—*Stovepipe Thimble.*—November 14, 1865; antedated November 2, 1865.—This thimble is cast in one piece, and consists of an annular ring as deep as the thickness of a deck or floor, which surrounds a pipe of the same size with a stovepipe. It is open to the air at the bottom, and at the top communicates by convenient apertures with the inner pipe. On the top and exterior circumference is a horizontal flange.

Claim.—The horizontal annular flange A, ring B, passages D, guards E, and pipe C, combined to form a ventilating stovepipe ring, made in the manner and for the purposes herein specified.

No. 50,925.—EDWARD A. FIELD, Sidney, Me.—*Bale-hoop Strainer.*—November 14, 1865.—This invention has for its object the straining of a hoop around a bale of hay, preparatory to nailing it to the boards employed in keeping the bale together. To this end the invention consists of a lever hinged at one end to a holding bar, provided at its foot with projecting spurs. The lever is provided with a movable jaw, hinged at its rear end thereto. A hole made through the lever, and a cushioning block fixed on the upper side of the lever, complete the apparatus.

Claim.—The bale-hoop strainer, composed of the holding bar B, the lever A, the passage *b*, and the jaw *c*, arranged and applied together substantially as described.

Also, the combination of the cushioning block *d*, the lever A, the passage *b*, and the jaw *c*, and the holding bar B, the whole being arranged to operate substantially in the manner and for the purpose as specified.

No. 50,926.—HENRY FISHER, Canton, Ohio.—*Fly Brush for Tables.*—November 14, 1865.—This invention consists in the arrangement of a post with a table, to which is attached an arm, and to this is pivoted a frame with some flexible material for a brush; a cord and pulleys are arranged so that the whole can be operated by a treadle under the table.

Claim.—The arrangement of the upright B, arm C, pendant D, cord F, pulley *d*, and treadle G, the several parts being constructed as and for the purpose specified.

No. 50,927.—HENRY GERNER, New York, N. Y.—*Button.*—November 14, 1865.—This button consists of a shank, two disks permanently affixed thereto, and a disk which may be secured to or detached from the inner end of the shank at will. The button-hole has its place between the two fixed disks, while the portion to which the button is generally sewed is clamped by rubber washers or springs, between the inner detachable disk and the central fixed disk.

Claim.—First, in buttons having a spring to force the detachable disk against its locking device, the central fixed disk B constituting an abutment for the spring, and separating the latter from the button-hole portion of the garment, substantially as described.

Second, the combination of the disks A B and shank D with the washers or springs *b* and detachable disk C, the whole being arranged and employed in the manner and for the purpose specified.

No. 50,928.—URIAH H. GOBLE, Dubuque, Iowa.—*Water Wheel.*—November 14, 1865.—This invention consists of a horizontal wheel placed in a scroll and revolving on a vertical shaft. The form of the bucket and its arrangement on the wheel, which constitutes the invention, will be understood by examination of the engraving in connection with the claim.

Claim.—A horizontal water wheel provided with buckets *c*, which are curved spirally in the manner shown, so as to have a concave face side and an inclined surface, both longitudinally and transversely, and projecting below the rim *a'* of the wheel into the space enclosed by the curb in such a manner as to give the water a direction toward the outside of the wheel, substantially as and for the purpose herein set forth.

No. 50,929.—DANIEL HALL and JOSEPH HALL, Wheeling, W. Va.—*Puddling Furnace.*—November 14, 1865.—The nature and object of this invention are explained by the claim.

Claim.—First, in furnaces for boiling and puddling iron and other metals, surmounting the iron chamber or basin with fire brick, substantially as above shown.

Second, surrounding the basins of iron furnaces with a tube or tubes through which water is forced against the exteriors of the basins, substantially as and for the purpose above described.

Third, placing the door frame of the furnace inwardly, as above shown, whereby the iron chamber or basin is made to be in range with the fire chamber, substantially as described.

Fourth, placing ribs, vertical or otherwise, on the inside of the enclosing or outside plates of iron furnaces, so as to form air flues for the purpose of keeping the bricks and plates cool, and for strengthening the plates and for preserving the furnace, substantially as described.

No. 50,930.—STARKEY HALL, Russellville, Ky.—*Cultivator.*—November 14, 1865.—The side beams in this cultivator are adjustable laterally, and in rear of the cultivator teeth is fixed an adjustable harrow. The tongue is pointed, and by lifting up the handles the harrow is raised, and by depressing the handles the ploughs are raised, the ploughs and harrow respectively forming a fulcrum for the handles, which act as levers of the first and second order.

Claim.—The combination in a cultivator of laterally adjustable ploughs with a longitudinally adjustable harrow, having a rigid attachment to the rear of the frame, when constructed, arranged, and operating substantially in the manner and for the purpose set forth.

No. 50,931.—EDWARD HALLEY, Branford, Conn.—*Reversible Latch.*—November 14, 1865.—This invention consists in flattening two sides of the latch bolt within the case and securing it against being turned by a slide which passes across the flat surface, but which may be withdrawn at will to permit the bolt to be turned by the application of the thumb to a stud projecting through a slot in the case.

Claim.—Constructing the latch bolt of the form substantially as described, so as to be reversed without withdrawal from the case, in combination with the slide or key *a*, or its equivalent, in the manner and for the purpose specified.

No. 50,932.—S. E. HEWES, Albany, N. Y.—*Deep Well Pump.*—November 14, 1865.—This pump lifts by the upward movement of the hollow piston rod, and discharges by the downward movement of the same. The lower edge of the piston is sharpened so as to scrape clean the interior of the cylinder. The induction tube or section of pipe below the pump is provided with occasional orifices throughout its length, and the pump cylinder is secured between the sections of tubing by an arrangement of collars and screws.

Claim.—First, in pumps for deep wells, securing the pump cylinder at top and bottom to the well tube, substantially as above described.

Second, extending the lower section of the well tube below the pump cylinder to the bottom of the well, and perforating its sides occasionally throughout its length, to admit gas and liquid to the pump, substantially as shown and described.

Third, bringing the lower part of the piston below the seat of its valve to a sharp edge, substantially as and for the purpose above described.

Fourth, the arrangement of the hollow piston rod, piston valves, and cylinder, constructed and operating as described, so that the upward and lifting and downward and discharging actions and operations are alternate and distinct.

No. 50,933.—MAURICE C. HULL, New York, N. Y.—*Cooking Range.*—November 14, 1865.—Midway in the space around the ash pit and fire chamber is a horizontal plate, and in the upper part of this space are reflecting plates to throw the heated air into the pipes leading to the chamber, the external air being admitted to this space by a convenient passage. Between the fire chamber and over the space the range is divided into two chambers by a vertical partition. The products of combustion can pass around and into the chamber nearest the oven, and thence to the exit pipe. The bottom of this chamber has aperatures increasing in size from the side nearest the exit pipe to the opposite side. A flue extends from the ash pit up in the rear of the fire chamber to the smoke escape under the top plate of the range. The front part of the water heater is lower than the sides about the grate, and this depression allows access to the fire through the feeding slide in front of the grate.

Claim.—First, in the plate *q* introduced in the air space around the ash pit and fire-pot, in combination with the deflecting plates *s s*, to cause the air to circulate through said space, in the manner and for the purposes set forth.

Second, the openings 3 and 4 at the bottom of and in combination with the flue *n*, substantially as and for the purposes set forth.

Third, forming the water heater lower at the front portion, as seen at *w*, in combination with the feeding chute *x*, as and for the purposes specified.

Fourth, the flue pipe *u* passing from the ash pit up through the hot-air space and plate *h*, in combination with the regulating damper *v* at the upper end, for the purposes and as set forth.

Fifth, the ascending flue *n* between the oven *i* and the fire, receiving the products of combustion from the flue at the bottom of the oven and conveying the same away by the escape *n'* at the back, as set forth.

Sixth, the flue *n* in combination with the oven *i* and air space *o* around the fire-pot, whereby the air to be heated is prevented from cooling the oven, as set forth.

No. 50,934.—EDGAR HUSON, Ithaca, N. Y.—*Device for Opening Artesian Wells.*—November 14, 1865.—This invention consists in so connecting the tubing and drill head of a water well boring instrument that during the operation of driving there shall be no aperture for the admission of water or earth, and that after the operation of driving is complete an aperture may be opened.

Claim.—A tube E in combination with an opening point A, to which a grooved shank F is attached, provided with a slot C, all arranged and operating in the manner described.

No. 50,935.—JAMES J. JOHNSTON, Alleghany City, Penn.—*Apparatus for Evaporating Liquids.*—November 14, 1865; antedated November 2, 1865.—This invention consists of a still set in the walls of a furnace. The still is divided into two compartments by means of a partition. The upper compartment is provided with an ordinary goose neck, and also with a tube, within which slides another tube connected with a perforated box. A pipe is connected with the tube, and passes down into the furnace under the still communicating with the lower compartment. The branch pipe may be connected to an air pump. The upper compartment is filled with oil to be distilled, and the lower compartment with water. When the fire is started the steam generated escapes into the upper compartment, and air may be forced along with it through the said branch.

Claim.—First, applying heat by means of steam or heated air, separately or combined, to the upper and lower surfaces of oil or other liquid, substantially in the manner and by the means herein described and for the purpose set forth.

Second, the use of the adjustable diaphragm *r* in combination with the still *e* and pipe *n*, said diaphragm, still, and pipe being constructed, arranged, and operating substantially as herein described and for the purpose set forth.

No. 50,936.—JOHN J. JOHNSON, Kalamazoo, Mich., and E. J. MURRAY, Wyoming, N. Y.—*Process for Tanning.*—November 14, 1865.—This invention consists in treating the hides with a liquor composed of oatmeal, sal soda, and water. After remaining in said liquor a sufficient length of time they are removed and handled in the usual manner, after which the hair is removed by immersing the hides in a liquid composed of lime and ashes and cold water. The hides are then placed in a bating composed of oatmeal and sulphuric acid, after which they are rinsed with water and worked on the fleshing beam. The hides are then placed in an ooze composed of water, oatmeal, borax saltpetre, common salt, and sulphuric acid. They are then placed in a second ooze, composed of water, oatmeal, terra japonica or sumach, alum, salt, and saltpetre. After the hides are tanned, they are washed in soft water, borax, sal soda, and soft soap.

Claim.—The successive compositions of ingredients used in the liquors for soaking, removing the hair or wool when required, bating, and the tanning oozes, in the proportions and manner substantially as herein specified, to compose one complete tanning process.

Also, specifically, the use of oatmeal, or its equivalent of starch, in the compositions and proportions of ingredients, substantially as herein set forth.

No. 50,937.—PHILIP KEENAN, Chartier township, Penn., and EDWARD O'CONNOR, West Pittsburg, Penn.—*Puddling Furnace.*—November 14, 1865; antedated August 26, 1865.—This invention consists of a composition for "fixing" puddling furnaces, the said composition consisting of finely pulverized iron ore and German clay, or its equivalent.

Claim.—The use of the ingredients herein named, when prepared and used in connection with puddling or boiling furnaces, for the manufacture of iron, substantially as described and for the purpose set forth.

No. 50,938.—THOMAS J. KELLEY, New York, N. Y.—*Burner for Gas Stoves.*—November 14, 1865.—This invention consists in the combination of a vertically arranged diaphragm with an external annular opening, on the outside circumference of which the gas is burned.

Claim.—The combination of a vertically arranged diaphragm *d* with the external annular opening *h*, as herein shown.

No. 50,939.—JOHN KENA, Brooklyn, N. Y.—*Extension Sofa Bedstead.*—November 14, 1865.—This invention consists in attaching to a sofa a frame-work composed of grooved bars, which slide in each other, and are capable of being drawn out from the sofa, and form, with the seat thereof, an ordinary bedstead, together with a series of slats hinged together, and, with said frame-work, forming a bed bottom.

Claim.—The arrangement of the hinged slats H H, as a movable bedstead, with the grooved bars C C′, when in combination with the sofa, substantially as described and for the purpose set forth.

No. 50,940.—ORAZIO LUGO, New York, N. Y.—*Fertilizer.*—November 14, 1865.—This invention consists in treating scraps of leather with sulphuric acid, after which they are boiled in water, then dried and reduced to powder. To this powder is added water of ammonia, after which it is dried and ready for use.

Claim.—The fertilizer herein described, consisting of leather treated with sulphuric or other acids, boiled, ground, and afterwards treated with urate of ammonia, substantially as herein specified.

No. 50,941.—JOSEPH MACOTTER, Baltimore, Md.—*Planking Clamp.*—November 14, 1865.—The object of this invention is to clamp the planks of vessels up to the timber to be fastened, and it consists of a strain bar with a knee, in which works a screw for pressing up the plank. Two hooks pass in the opposite direction from the strain bar, and are adjustable thereon and take hold of the timber, and hold so that the screw will force the plank up to its place.

Claim.—In a clamp for planking vessels, the arrangement of the strain bar A, hooks B B, knee C, and screw D, when constructed and operating substantially as described.

No. 50,942.—ANTON MASCHKA, Chicago, Ill.—*Ploughshare.*—November 14, 1865.—The leading feature in this invention consists of a sharp blade projecting at right angles to the wing of the share at the rear end thereof, in combination with the share and mouldboard. The office of this blade is to cut off roots that would otherwise escape the action of the share.

Claim.—In combination with the mouldboard O, stand *a*, and brace *d*, the root cutter *c*, when constructed in the manner herein set forth.

No. 50,943.—SILAS C. MATTESON, Osceola, Wis.—*Mechanical Movement.*—November 14, 1865.—This invention consists chiefly in the combination of a double rack bar, with a lever of peculiar construction, for elevating, dragging, or otherwise moving heavy bodies.

Claim.—First, the combination with the double rack bar A of the lever B, formed with the bevelled opening B′, adapted for the purpose explained.

Second, the adjustable guides E E, for steadying the rack bar during its movement, substantially as described.

Third, graduating the lever B, for the purposes herein specified.

No. 50,944.—H. H. MAY, Galesburg, Ill.—*Water Elevator.*—November 14, 1865.—A modification of the Egyptian noria, the details of which can be understood only by reference to the specification and drawing.

Claim.—First, a conic water-tight wheel *p*, casing *g*, and outer casing *z*, as constructed and arranged substantially in the manner and for the purpose herein described.

Second, in combination therewith, the spiral position of paddles or buckets, as secured to the wheel by means of stays or plates B and C, substantially in the manner and for the purpose herein set forth.

Third, the gate *f*, lever *f′*, and pins *f″*, and the holes E″ E″, for adjusting the quantity of water in its passage to the wheel, substantially as described.

Fourth, the air passages *g″ g″*, as arranged in relation to the conic wheel, substantially in the manner and for the purpose described.

Fifth, flume or tunnel D, with its enlarged area for the gates, and the gates E″ E″, as constructed and arranged substantially in the manner and for the purpose set forth.

Sixth, cog gearing E F and *g′*, in combination with the gate *f* and holes E, for a better adjustment of the quantity of water in its passage to the wheel, substantially in the manner as set forth.

Seventh, spouts *a″ c″* and opening from *a′* to *a″*, as constructed substantially in the manner and for the purpose set forth.

Eighth, the hinged gate *c*, hinged apron *c*, and movable portion of casing, as constructed, arranged, and operating in the manner and for the purpose herein set forth.

No. 50,945.—JOHN M. MULLER, North Becket, Mass.—*Tanning.*—November 14, 1865.—This invention consists in tanning the hides in an ooze, made of equal parts of yarrow and black birch or willow bark, and subjecting the stuffed hides to a steam bath, the steam of which is generated from an ooze prepared as above described.

Claim.—First, a tanning ooze, which is made from the ingredients herein mentioned, and combined in about the proportions set forth.

Second, subjecting stuffed or unstuffed skins, after they have been tanned, to the action of steam, substantially as described.

No. 50,946.—ALBERT J. MYER, Washington, D. C.—*Mode of Communicating by Signals.*—November 14, 1865.—This invention consists of two concentric disks, one being somewhat larger than the other and pivoted together by a clamp screw. Around the outer edge of the smaller disk are printed the letters of the alphabet in any desired sequence, and around that of the larger opposite disk each letter is printed a number of one or more arithmetical figures. Each of the signalling parties is provided with one of these instruments, and by preconcerted agreement, a given letter being understood to be represented by a certain number, that number is set against said letter, and the messages are composed by employing in place of the letters upon the smaller disk the number found respectively opposite them upon the larger in such combination as, if the letters themselves were used, would convey in ordinary language the message which it is desired to transmit.

Claim.—The within-described system of signalling, which is controlled by means of letters, numerals, or other characters upon disks that are put together in such manner that the relative positions of such characters can be changed at pleasure, substantially as set forth.

No. 50,947.—HARRISON OGBORN, Richmond, Ind.—*Splint Plane.*—November 14, 1865.—This invention consists of a plane with a common face and bit for jointing the edge of a board, and on another side of the same stock is arranged a slicing bit and slitting spur with adjustable gauge plates for slitting the splints as they are cut to the proper width. The plane stock is so constructed that the handle can be turned over and be in proper position for work with either face of the plane and be held by springs firmly in place.

Claim.—First, the arrangement in a splint plane of the plate K, bit D, and one or more splitting knives and guide C, all constructed and combined substantially as and for the purposes set forth.

Second, the arrangement in a splint plane of the plate K, bit D, bevelled guide C, and one or more bent knives I, all constructed and combined substantially as and for the purpose set forth.

Third, the combination of the plane stock A, and adjustable handle B, so constructed with the rod M, and spring G and G′, as to be capable of being arranged perpendicularly to two faces of the plane, substantially as described.

No. 50,948.—EBENEZER P. PALMER, Milton, Del.—*Journal Box for Land Carriages.*—November 14, 1865.—This invention consists of annular chambers constructed in a journal box, each of which is provided with a series of friction rollers which revolve on the periphery of the journal as they are turned by its pressure, the journal having a central arrangement in regard to them.

Claim.—Constructing the box A with a number of partitions C, so as to shorten the rollers and prevent their jamming when the said box is used in combination with the rollers D and journal E, substantially as described and for the purposes set forth.

No. 50,949.—G. D. PETTINGILL and L. H. MERICLE, Cortland, N. Y.—*Mode of Sinking and Tubing Wells.*—November 14, 1865.—This invention consists in a combination of devices whereby a tube may be sunk into the earth for the purpose of forming an artesian well, said tube being perforated near its lower end for the passage of water or oil, and said perforations being prevented from being obstructed with extraneous matter while the tube is being driven into the earth.

Claim.—First, the combination of the tube A C with the boring tool B, the operating rod F, and the cap D, in the manner and for the purpose substantially as shown and described.

Second, the combination of the strainer E with the boring tool B, the operating rod F, and the pipe A C, in the manner and for the purposes substantially as shown and described.

No. 50,950.—JULIUS R. POND, New Hartford, Conn.—*Condensing Milk.*—November 14, 1865.—This invention relates to an improvement upon a patent granted to the said Pond January 5, 1864, and it consists in applying the oleine daily for a certain length of time, after which the surface of the pan arrives at such a condition as to render the application of the oleine unnecessary.

Claim.—Employing oleine, or its equivalent, for the purpose of putting the interior surface of a vessel used for condensing milk, whether the milk is or is not heated preparatory to running it into such vessel, into the condition above described, so that after such condition is attained, daily applications of oleine are not required, substantially as and for the purposes set forth.

No. 50,951.—D'ARCY PORTER, Cleveland, Ohio.—*Knife Sharpener.*—November 14, 1865.—This invention consists of two metallic cutters fitted into a suitable space in a block of wood and inclined upward and inward so as to come together and leave a space between them and the wood. The cutters are kept in place by a button screwed down upon them. The sharpening is effected by drawing the edge of the instrument to be sharpened across the cutters at their point of contact.

Claim.—The arrangement of the plates or cutters *b b*, in combination with the button D and block A, in the manner and for the purpose substantially as set forth.

No. 50,952.—ISAAC R. POTTER, Dartmouth, Mass.—*Horseshoe Calks.*—November 14, 1865.—This invention consists in the employment of wedge-shaped calks inserted in tapering sockets in an auxiliary shoe which is affixed by means of screw bolts to a permanent shoe on the horse's foot.

Claim.—The wedge-shaped calks, in combination with the tapering sockets in the auxiliary shoe, substantially as described.

No. 50,953.—HENRY S. PRATT, Hartford, Conn.—*Coal Scuttle.*—November 14, 1865.—The base of the scuttle is cast in one piece with a slight rim around its upper edge; the bottom edge of the sheet-iron body being made to fit under a cast-iron rim and then set firmly into the rim of the base. It is secured in place by bolts through the base.

Claim.—As a new improved article of manufacture a coal scuttle, the combination of the base D, rim E, and body A, constructed substantially as described.

No. 50,954.—NEAL H. PURCELL, Avon, N. Y.—*Grain Planter.*—November 14, 1865.—This invention consists in a combination and arrangement of beams having shares attached, with grain boxes placed within a main box and made adjustable transversely to the line of draught with the beams, said beams being adjusted vertically also, for the purpose of distributing the grain automatically in any required quantity and regularly at any required distance apart.

Claim.—First, the beam *e* or beams *e e* with their attached drill ploughs and shares and hole or orifice for the passage of the tube *l*, when the said beam is adjustable laterally and vertically, substantially in the manner set forth.

Second, the movable grain-box K K, in combination with the diaphragms *m m*, and tubes or pipes *l l*, when constructed and arranged substantially as described.

Third, the adjustability of these boxes transversely to the line of motion of the machine or planter, in combination with the lateral adjustability of the beams *e e*, as set forth, for the purpose of regulating the width of the drills from each other.

No. 50,955.—EZRA RANSOM, Flint, Mich.—*Machine for Making Chair Seats.*—November 14, 1865.—The carriage in which the chair seat is chucked has a longitudinal motion on slides by which the seat is passed under the revolving cutter, whose form is adapted to the shape of the required depression in the seat. The back of the chair seat has a vertical motion by means of formers on one side of the machine which raise and depress one side of the carriage while the other is journalled in the slide on the opposite side of the machine.

Claim.—In a machine for making chair seats the arrangement consisting of the parallel formers N N, actuating vertically one side of the carriage C upon the axis formed in the slideway B′, the carriage motion being derived from a feed screw M, traversing in the sectional nut G, which is released by the contact of the lever F with the adjustable stop I, as described and represented.

No. 50,956.—SAMUEL RAY and ELI GRANT, Alliance, Ohio.—*Harvester.*—November 14, 1865.—This invention consists in an arrangement of devices for enabling the attendant to elevate or depress the points of the cutters and fingers at pleasure and while the machine is in operation. The rear cross-piece of the frame is made tubular and forms the bearing of a transverse shaft to either end of which is attached a supporting arm of the shoe of the cutting apparatus in such a manner that as the shaft is rocked by means of a lever within reach of the attendant, the supporting arms are vibrated about the shaft as a common centre, thereby varying the angle of the cutters to suit the work to be done.

Claim.—First, the link P and lever R, in combination with the rods *m n* and shoe G, substantially as and for the purpose set forth.

Second, the adjustable brace D, in combination with the shoe, constructed and arranged as and for the purpose set forth.

Third, the sleeve B and brace D, in combination with the shaft C and arm F, constructed and arranged substantially as and for the purpose set forth.

No. 50,957.—FRANCIS B. RICHARDSON, Boston, Mass.—*Mould for Enema Syringes.*—November 14, 1865.—This invention consists in giving the core a firm bearing in the mouth of the mould, which is suitably bored and fitted for the purpose.

Claim.—In moulds for making elastic bulbs of enema syringes, &c., the use of a core or mandrel having a firm and permanent bearing therein, so as to insure the formation of a true and symmetrical neck and orifice to the bulb, as set forth.

No. 50,958.—MICHAEL RILEY, Morrow, Ohio —*Malting Apparatus.*—November 14, 1865.—This invention consists of a vessel provided with a false bottom forming a steam chest. Within the said vessel revolves a shaft armed with blades. A portion of the blades are so set as to move the grain towards the circumference, and the other blades are so arranged as to move the grain towards the centre.

Claim.—First, the arrangement of vat A, steam space D, and agitator J R R′, or their equivalent, for the purpose set forth.

Second, the arrangement of adjustable feathering blades K K K′ K, for the purpose set forth.

No. 50,959.—E. P. RUSSELL, Manlius, N. Y.—*Harvester.*—November 14, 1865.—A diagonal spring draw bar is rigidly connected at its front end to the front outer corner of the frame, and, extending diagonally across the frame, passes through eyes formed in lugs on the shoe located at the inner rear corner of the frame. The rear end of this draw bar is braced in position by means of a V-shaped spring, one arm of which passes through loops or eyes on the rear end of the frame. The said spring allows the heel end or shoe of the cutting apparatus to rise and fall, and the shoe vibrating on the draw bar allows the outer end to rise and fall, thereby by the use of a single hinge allowing the cutting apparatus to conform freely to the surface of the ground over which it is drawn.

Claim.—First, the angular diagonal spring draw bar D *e*, serving as a hinge for the cutting apparatus to turn on, as a flexible brace and support for said apparatus to rest and move upon bodily, and also as a draw bar, substantially as and for the purpose set forth.

Second, the V-spring E E2, constructed and applied to the harvester frame and cutting apparatus, substantially as and for the purpose set forth.

Third, the combination and arrangement of the spring E E2, angular hinging and bracing spring draw bar and the cutting apparatus of the harvester, substantially as and for the purpose set forth.

Fourth, the combination of the bar H, arranged and operating as described, with the cutting apparatus and devices upon which said apparatus is suspended, substantially as and for the purpose set forth.

Fifth, the bar H attached to the hinge of the cutting apparatus by one of its ends and fitted to a slotted plate J by its other end, and operating in the manner described, all for the purpose set forth.

No. 50,960.—THOMAS H. B. SANDERS, Pittsburg, Penn.—*Apparatus for Ventilating Railroad Cars.*—November 14, 1865.—In a chamber in the casing above a stove a fan wheel is operated by the revolutions of a vane on the top of the car by means of shafts and wheels. When there is a fire in the stove hot air is driven out from this chamber through suitable apertures, and in summer the air is put in circulation by the revolution of the fan wheel. Apertures in the bottom of the casing admit air about the stove, which can rise thence through the perforations in the bottom of the upper chamber.

Claim.—Creating a current of air in railroad cars, for the purpose of ventilation, by means of a fan placed in a case or box and operated by a vane, substantially in the manner hereinbefore described.

Also, the combination of a fan blower, operated by a vane, in the manner substantially as hereinbefore described, with a stove, for the purpose of causing a circulation of warm air in railroad cars.

No. 50,961.—CHARLES G. SARGENT, Graniteville, Mass.—*Wool-washing Machine.*—November 14, 1865.—This invention consists of a beater, the object of which is to knock off any wool that may cling to the upper of a pair of squeeze rolls, for pressing water out of wool. This beater is hung in weighted levers which press upon followers that bear upon the journals of the upper squeeze roll, so that as the latter rises and falls to accommodate itself to the varied thicknesses of the wool, the beater shall rise and fall in a corresponding degree. An upward inclined apron is used in connection with the squeeze roll and beater, for catching, carrying up, and throwing over the squeezed wool.

Claim.—First, in connection with the squeeze rollers of wool-washing machines, in combination with the top roll of the pair, a revolving beater for knocking off any wool that may adhere thereto, substantially as described.

Second, the combination and connection of the beater and top yielding roll with the frame, and with the weighted levers E, as and for the purpose substantially as herein described.

Third, in combination with the squeeze rolls and beater, arranged and operating substantially as herein described, the upward inclining apron, as and for the purpose described.

No. 50,962.—FREDERICK SCHULTE, Philadelphia, Penn.—*Tobacco Pipe.*—November 14, 1865.—The stem of the pipe is made in two or more parts, the lower one of which is so perforated that the smoke is carried backwards and forwards several times before being finally discharged into the mouth-piece; these holes can be readily cleaned by withdrawing pieces of cork in the stem. The upper part of the stem is corrugated on the inside so as to retain all moisture, &c.

Claim.—First, the detachable corks or plugs *i* and *i'* combined with the stem of a pipe, and adapted to longitudinal openings *e e'* and *e''* in the same, substantially as described.

Second, corrugating the interior of a pipe stem, for the purpose set forth.

No. 50,963.—R. L. SHUTE, Philadelphia, Penn.—*Churn.*—November 14, 1865.—In this machine three dasher blades run longitudinally along a vibrating shaft. The lower perforated blade is weighted upon its lower edge to facilitate the laterally vibratory movement.

Claim.—The combination with the box B of the churn of the beaters C C, perforated near the outer edges, and the beater A, loaded at its outer edge and perforated near its shaft, the said beaters C C and A being arranged radially upon a horizontal shaft, substantially as above described.

No. 50,964.—HAMILTON E. SMITH, Cincinnati, Ohio.—*Family Laundry.*—November 14, 1865.—This invention consists in a combined apparatus to facilitate the successive operations of washing and drying clothes, and reduce the consumption of time, fuel, and labor required.

Claim.—First, ventilating a dry-house or chamber from the bottom, substantially in the manner and for the purpose specified.

Second, the drying chamber B, having a smoke flue C, and a descending vapor duct or passage E, which flue and duct discharge into a common chimney D.

Third, heating the drying chamber and the wash water by a single furnace A, in the manner substantially as set forth.

No. 50,965.—FRANCIS STABLER, Baltimore, Md.—*Mode of Preserving Animal and Vegetable Substances.*—November 14, 1865.—This invention consists in depriving animal and vegetable substances of water by means of salt or sugar, after which the articles are placed in air-tight cans, from which the air is expelled by means of carbonic acid gas.

Claim.—Preserving animal or vegetable substances used for food when wholly or partially desiccated, by sealing it up in air-tight vessels, and expelling the air by the substitution of gas that will not support combustion, substantially as described.

No. 50,966.—WILLIAM H. STANTON and A. D. SPENCER, Dunmore, Penn.—*Valve Gear for Steam Engine.*—November 14, 1865.—This invention consists in the employment of a slotted rocker arm in combination with the valve. The said arm is attached either to the crank or connecting rod, and a rod which forms the connection between a slide moving in the slot of the rocker arm. The motion of the valve is regulated, and the valve at each end of its stroke remains a short space of time, giving a full head of steam as the crank passes the half centres.

Claim.—First, the rocker arm G applied and operating in combination with the valve, substantially as and for the purposes set forth.

Second, the combination of a supplementary crank *a* with the rocker arm G, main crank F, and valve rod *e*, substantially as and for the purpose described.

No. 50,967.—R. H. ST. JOHN, Bellefontaine, Ohio.—*Method of Sinking Wells.*—November 14, 1865.—The object of this invention is to obtain water from beneath the surface of the earth by means of an auger of a peculiar construction, which is applied to a perforated tube, and which will readily penetrate the earth and pack the walls of the well, so as to leave a space surrounding the said tube, and thus admit of the free entrance of water into the tube, from which it can be obtained by any of the well-known lifting or force pumps.

Claim.—The construction of the boring device B *a b*, and tube A *c*, substantially as described, and also in such manner that the two parts are permanently connected together, and the tube constitutes both the penstock and the stem, substantially in the manner and for the purpose set forth.

No. 50,968.—GEORGE F. TILTON, Salem, Mass.—*Clothes Dryer.*—November 14, 1865.—This invention consists of a semicircle of radial arms which may be opened and folded, the whole being attached to the wall of a room, for airing or drying clothes.

Claim.—A clothes airer to be attached to the wall of a room, consisting of a semicircle of radial arms *e*, semicircular blocks C and D, braces *f*, and upright B, substantially as and for the purpose described.

No. 50,969.—ALANSON WARNER, Ontario, N. Y.—*Gearing for Harvester.*—November 14, 1865.—This invention consists in an arrangement of gearing whereby the friction clutches in common use in this class of machines are dispensed with, and the driving power is applied equally from the two ground or driving wheels, when the machine is advanced in a right line, or either wheel may remain stationary in turning a corner, and the action of the cutter continued through the rotation of the other wheel.

Claim.—The separate or independent axles C C, provided with the bevel wheels D D, in connection with the wheel E placed loosely on said axles, and provided with two or more bevel pinions F, into which the bevel wheels D gear, substantially as and for the purpose set forth.

No. 50,970.—JOEL S. WARNER, Ogdensburg, N. Y.—*Tatting Shuttle.*—November 14, 1865.—This invention consists of a tatting shuttle, having a sheathed spool, a spring at each end of the spool inside its bearing, and a tatting hook at one end of the shuttle, said hook being sheathed or extended at will.

Claim.—The tatting shuttle, as described and represented, as an article of manufacture.

No. 50,971.—ISAAC J. WAY, Memphis, Tenn.—*Cotton Press.*—November 14, 1865.—In operating this machine the press head is raised and held suspended by a block and tackle attached to the upper part of the frame. The chambers having been filled with cotton, certain cables are attached, ratchets are thrown into gear with wheels, the cables are wound around an axle, and the cotton powerfully compressed by the descent of the head. When the bale has been formed catches on the doors are removed, the end doors fall, the side doors are opened, the ropes passed around the bagging, and the bale removed.

Claim.—The cotton press constructed, arranged, and operating as and for the purposes set forth.

No. 50,972.—ALBERT WATSON and GEO. W. MILLER, Springfield, Mass.—*Railroad Switch.*—November 14, 1865.—This invention consists of an arrangement of devices by which a switch can be locked in one position, from which it cannot be moved by any one not in possession of the key. The arrangement includes a sliding chair mounted on a block of wood, and a pinion working in a rack on the under side of the sliding chair.

Claim.—First, the sliding piece B when used in combination with a chair A and the rails *m m' m''*, substantially in the manner and for the purpose set forth.

Second, the combination of the shaft D and pinion C with the block A and slide B, substantially in the manner and for the purpose set forth.

Third, the combination of the shaft F, cam G, and pin H with the block A and slide B, substantially in the manner and for the purpose described.

No. 50,973.—JOHN WELDING, Cincinnati, Ohio.—*Washing Machine.*—November 14, 1865.—In this invention the bottom of the swinging tub is provided with a series of rollers arranged in an arc eccentric to the pivots on which the tub swings, so that as the tub oscil-

lates the clothes are first freely admitted and afterwards tightly squeezed between the rollers and the stationary rubber.

Claim.—The swinging semi-cylindrical tub A hung eccentrically as *a*, and having journalled slightly within and concentric with its concavity a series of rollers E, the same being combined with the stationary pendent rubber C, covers F F, and projections *f f*, substantially as set forth.

No. 50,974.—ELONZO S. WHEELER, Westport, Conn.—*Composition for Buttons.*—November 14, 1865.—This invention consists of a composition made by heating shellac on a metallic plate until it becomes soft, and while in that condition mixing with it pulverized barytes, after which the mass is rolled into a sheet of proper thickness. The buttons are then cut out with a die and finished in the ordinary manner.

Claim.—A new composition of shellac and barytes, in such proportions as will produce buttons and other articles with a high degree of polish, substantially as described.

No. 50,975.—JAMES D. WHELPLEY and J. J. STORER, Boston, Mass.—*Quartz Crusher.*—November 14, 1865.—This invention consists of a quartz mill having revolving grinding parts of a fixed conical disk placed at the exit side of the machine, and connected to the case by radial bars, spaces being formed between said bars through which the pulverized substances pass to the exit spout or chimney.

Claim.—First, the fixed disk K, between the revolving part of the mill and the exit side of the case, substantially as set forth and for the purpose described.

Second, the radial partitions L in the space W, between the disk K and the side of the mill, substantially as and for the purpose described, with or without the plate or disk named in the first claim.

No. 50,976.—JAMES D. WHELPLEY and JACOB J. STORER, Boston, Mass.—*Process for Uniting Cast Steel or Cast Iron with Wrought or Cast Iron Surfaces.*—November 14, 1865.—This invention consists in coating the core of wrought iron, around which the iron or steel is to be cast, with a metal not easily oxidized, such as tin, copper, or silver. The wrought-iron core is thoroughly cleansed and immersed in a bath of molten tin, which becomes incorporated with the surface of the iron. A coating of silver or copper may be deposited on the iron by means of a solution of chloride or cyanide of silver or copper in glycerine, rendered alkaline by the addition of an alkaline chloride or cyanide.

Claim.—First, covering, with some metal not easily oxidized, iron cores, either wrought or cast perforated plates, wire, or brass, when it is desirable to coat such cores with or firmly attach them to cast iron or steel previous to pouring upon the molten metal, and for the purpose of permanently and solidly connecting wrought or cast iron cores with cast iron or cast steel, substantially as and for the purpose described.

Second, the use of glycerine solutions of cyanide or chloride of copper or silver, rendered alkaline by alkaline cyanides and chlorides, and of chemically analogous solutions of tin and other metals, for the purpose of depositing the thin, not easily oxidizable metallic film required in this process.

Third, the alloy of Franklinite metal, itself an alloy of zinc, manganese, and iron, with common cast iron, in the proportions of from ten to twenty per cent. of the former to eighty or ninety per cent. of the latter; also similar alloys of iron with zinc, molybdenum, tungsten, titanium, manganese, and other metals, when the proportions of manganese indicated in the above alloy are placed by equivalent proportions of metals of like properties in their alloys with iron.

Fourth, the construction of the wearing parts of pulverizing mills and quartz crushers of cast metal attached to wrought iron by the above process.

Fifth, the connecting of cast steel, semi steel, and Bessemer steel, so called, to wrought-iron surfaces, by use of the process described.

No. 50,977.—EDWARD WHITELEY, Cambridge, Mass.—*Range.*—November 14, 1865.—The flue of the range passes under the oven in an undulating form, and is so provided with dampers that the products of combustion can be guided circuitously or directly through it. A portion of the fire-pot next the oven is left open for the reception of soapstone.

Claim.—An oven flue of an undulating or wave-like form, substantially as described, for the purpose set forth.

Also, the arrangement and application of the fire-pot A, having a portion of that side contiguous to the oven left open for the reception of a lining of fire-brick, or its equivalent, and constructed substantially as set forth.

No. 50,978.—O. E. WOODBURY, Madison, Wis.—*Cane Mill.*—November 14, 1865.—This invention consists in so arranging the journals of the crushing rollers in boxes and connecting them to stirrups that two of the rollers may be turned over the other, and also so that the upper feed roller may oscillate in receiving the cane, and the two feed rollers may assist with their gear in giving pressure against the third roller in crushing the cane.

Claim.—First, the combination of the levers J, stirrups O, and links N, connected to the standards D, as and for the purpose described.

Second, the arrangement of the rollers A B with their respective gear wheels F G and side levers J J, forming, by means of tension links N and the improvement of the rollers B C, a crushing weight upon the cane between the rollers B C.

Third, attaching the journals of the roller B by the stirrups O to the levers J at a point between vertical lines passing through the axes of the rollers B C.

Fourth, the arrangement of the rollers A B upon the levers J J, which are connected by links N N to the standards concentrically with the axis of the roller C, permitting the revolution of the levers J and their attached rollers backwardly, as and for the purpose described.

Fifth, the combination of the roller B with a connecting stirrup rod or frame, upon whose pivoted point it has a vibratory motion.

No. 50,979.—H. S. WOODRUFF, Janesville, Wis.—*Trace Buckle.*—November 14, 1865.—This invention consists in a buckle frame hung by a centre cross-bar within a loop of the inner end of the hame tug, the outer end of which frame has a swinging bar bent into a circular shape, or nearly so, provided with a centre tongue or pin.

Claim.—The trace buckle herein described, the same consisting of the circular hinged plate or bar having a tongue or pin, and arranged with regard to the buckle frame attached to the hamé strap, substantially as and for the purposes specified.

No. 50,980.—W. L. WOODS, Washington, D. C.—*Parallel Rule.*—November 14, 1865.—This invention consists in providing the rollers of an ordinary parallel ruler with scales, which, in connection with an index on the edge of an opening made in the surface of the ruler over the rollers, indicates the distance which the ruler is moved.

Claim.—The box or frame A, the cylinders or rollers F, and the index finger L, with their constituent parts, in combination substantially and for the uses and purpose as above described.

No. 50,981.—NELSON WRIGHT, New York, N. Y.—*Photographic Bath.*—November 14, 1865.—This invention has for its object the production of a silver bath for photographic use which shall preserve the silver solution from chemical deterioration and allow it to be used until exhausted. To this end the invention consists of a rubber lining throughout the interior of the bath box.

Claim.—The rubber packing D, constructed and operating substantially as shown for the purpose specified.

No. 50,982.—RANSON C. WRIGHT, Mead Township, Penn.—*Railway Axle-bar.*—November 14, 1865.—This invention consists in the form of the bearing, which projects beyond the end of the axle and turns down at a right angle, and thus forms a bearing for the thrust of the axle, and also in the mode of holding the brass in place.

Claim.—First, the bearing B, with its projection *h* and pocket *b*, all substantially as and for the purposes set forth.

Second, the bar or support *m*, with its pockets K K, in combination with the bearing B and projection *h*, all substantially as and for the purposes set forth.

No. 50,983.—GEORGE YELLOTT, Baltimore county, Md.—*Steam Engine.*—November 14, 1865.—This invention consists in constructing the cylinder of a steam engine in two sections, one of considerably larger diameter than the other, the smaller section of which is closed at its ends, and the outer end of the larger one is left open to the resistance of the atmosphere, so that as steam is admitted to the smaller section and the piston of the larger one is forced out, the atmospheric resistance is designed to propel the vessel or carriage upon which the engine is placed. Its novelty further consists in the combination of such a cylinder with a vertical hollow shaft, and with a circular ring upon which it is caused to rotate, for the purpose of adapting it to the steering of vessels.

Claim.—First, the cylinder constructed as above described, in two sections of unequal diameter, each section being one-half the whole length of the cylinder, with the end of the section of larger diameter open, and the end of section of smaller diameter closed, with a piston fitted air-tight and steam-tight in each section, and the two pistons connected by a piston rod; so that when steam is admitted into the smaller section and acts against the piston in that section, the other piston in the larger section may be driven out against the resistance of the atmosphere, and the reactive pressure of the steam on the closed end of the smaller section of said cylinder occasioned by said resistance may be used as the motive power of the engine, in the manner and for the purposes set forth in this specification.

Second, the cylinder as above described, in combination with and placed horizontally on the platform, supported at its outward edge by the wheel resting on the circular rail, and attached to and revolving with the vertical shaft, with the upper and lower extremities of said shaft working steam-tight in the two steam-tight boxes, and with the hollow spaces in the upper and lower portions of said shaft for the admission of steam from the boiler and the escape of the exhaust steam; said cylinder being placed on said platform, with the closed end of the smaller section perpendicular to the centre of motion of said vertical shaft and firmly attached to said platform, so that it can be made to revolve with it in the manner and for the purpose set forth in this specification.

Third, said cylinder in combination with the said platform and vertical shaft with all their appendages as above described, but with said cylinder placed horizontally on said platform and firmly attached thereto, with the closed end of the smaller section of said cylinder at a right angle with the radius of the circle made by said shaft in its revolution, in the manner and for the purposes set forth in the reference to drawing E, in the drawings accompanying this specification.

Fourth, said cylinder, in combination with the two pistons connected by the piston rod, with the hollow tube in the centre of said rod extending through the smaller piston, and connected with hollow spaces in the pistons, said hollow spaces in the pistons being open at the bottom and closed at the top in the manner and for the purposes set forth in the reference to drawing F, in the drawings accompanying and making part of this specification.

No. 50,934.—DAVID BEARLY, assignor to JAMES J. HAMILTON, Newcastle, Ind.—*Meat Cutter.*—November 14, 1865.—This invention consists in arranging a meat cutter upon a vertical shaft, on which is a screw-formed feeder having on its upper edge a knife for cutting the meat as it descends below the hopper, in combination with other cutters on the shaft and projections on the interior of the case in the usual form.

Claim.—First, the combination of the case A A′ and vertical shaft I, substantially as described and for the purposes specified.

Second, the combination of the funnel-shaped mouth B and propeller-shaped screw F, with its sharp cutting edges K, substantially as described, and for the purpose indicated.

Third, the combination of the propeller-shaped screw F, the vertical screw-shaped shaft I, the washers E, knives G, projections H, substantially as described and for the purposes indicated.

No. 50,985.—JESSE BUTTON, assignor to himself and R. F. HASKINS, Springfield, Mass.—*Drilling Machine.*—November 14, 1865.—This invention consists in applying to a drilling machine for artesian wells two improvements, viz: a lightener formed by means of a peculiar spring and an automatic feed for giving a partial rotation to the drill at each stroke.

Claim.—First, the lightener, consisting of the combination of the springs A B and beam C with the drill shaft E, substantially in the manner and for the purpose described.

Second, the automatic feed motion, when constructed and applied to a drilling machine, in the manner and for the purpose herein set forth.

No. 50,986.—THOMAS BYRNE, assignor to himself and S. S. SMOOT.—New York, N. Y.—*Deep-well Elevator.*—November 14, 1865.—A cylinder arranged within a well tube has expanded chambers and valves at different altitudes. The well tube descends below the cylinder, and has perforations near its base. Each ball valve rests upon a seat formed of an annulus, so divided vertically that its inner part is the frustum of a cone inverted in order that the valve seat itself may rise to permit the ascent of gas outside of the oil cylinder. The several cylinders have stuffing boxes above the surface of the earth. Air condensed in a cylinder, and subsequently heated therein, enters the well tube to melt the paraffine and force it through the discharge pipe, while an exhaust chamber is applied to this pipe, to induce the ascent of the paraffine.

Claim.—First, the method, substantially as herein described, of accomplishing the twofold function of elevating the oil and melting the paraffine, by means of air, as set forth.

Second, constructing the valves seats so that they answer the twofold purpose of a seat for the valve, and also as a valve, substantially as and for the purpose described.

Third, the connection between the conical valve seats of the various valves and the discharge pipe, substantially as and for the purpose described.

Fourth, an elevator, constructed with one or more valved chambers, and with an outer and inner tube, substantially as described, in combination with a vacuum apparatus and a forcing apparatus, substantially as and for the purposes set forth.

Fifth, the combination of the compressed air chamber and the vacuum chamber with the elevator, which has one or more working chambers, substantially in the manner herein described and for the purpose set forth.

Sixth, the arrangement of a series of elevators, acting within each other in such a manner that each can act independently of the other, and so that the liquid in each will be acted on by a vacuum and pressure at the same time, substantially as described.

Seventh, so arranging the several independent elevators within one another that all the stuffing boxes may be above the level of the earth's surface, substantially as described.

Eighth, applying pressure to the top of the column of oil within the outer or main tube of the elevator, and, at the same time, subjecting it to the lifting action of a vacuum by means of an apparatus constructed and operating substantially as described.

No. 50,987.—JOHN CHASE, assignor to S. E. HORTON, Windsor Locks, Conn.—*Apparatus for Carburetting Air.*—November 14, 1865.—This invention consists in covering the wheel of a carburetter with wire gauze in order that the air in passing into said wheel may be more intimately mixed with the hydrocarbon liquid, and also in regulating the amount of air supplied by means of a reservoir in which is suspended a regulator attached to a bar

which operates friction clutches attached to the shaft of the bucket wheel. The invention further consists in passing the carburetted air through a wire-gauze tube before it reaches the burners in order to separate it from impurities.

Claim.—First, entirely surrounding or covering the open ends of the wheel chambers or compartments with a sheet or sheets of wire gauze, or other suitable open and perforated or porous substance or material, for the purpose specified.

Second, regulating the amount of gas or other vapor generated or collected by the operation of the chambered wheel B as described, by means of any suitable arrangement of devices, connected at one end with the driving shaft of the said wheel, and at the other with in the reservoirs of pipe containing such gas or vapor, and operating substantially in the manner specified.

Third, passing the gas or other vapor, after being generated or collected, and previous to its being burned or otherwise employed, through wire gauze or any other suitable open and porous material, substantially as and for the purpose described.

No. 50,988.—FLORIAN DAHIS, assignor to himself and FRANCIS THILL, assignor to said DAHIS and H. B. VOSS, Brooklyn, N. Y.—*Button Fastening*—November 14, 1865.—A disk inside the cloth has a pointed stem which enters the button in front. This pointed stem receives a spring moving in a lateral slot in the back of the button.

Claim.—A fastening for garments, composed of the parts *a* and *d*, held together by the spring *f*, taking a notch in the perforator *b*, as set forth.

No. 50,989.—JAMES EMERSON, Lowell, Mass., assignor to himself and C. D. MCDONALD, Ellsworth, Me.—*Sewing Machine for Working Button-holes.*—November 14, 1865.—In this machine a short needle thread is used, which the needle, as in hand sewing, carries first through the cloth and then through the button-hole. The range of motion of the needle arm is gradually lessened to coincide with the gradual consumption of the thread. The cloth is fed by means of an irregular gear, somewhat of a button-hole shape. The cloth plate has a lateral reciprocating motion to enable the needle to pass alternately through the cloth and through the button-hole. The needle is blunt at one end, with its point uppermost, and two eyes in the middle, and is passed from one side of the cloth to the other by means of nippers.

Claim.—First, the arrangement of the screw N and half nut P on the lever M, when constructed substantially as described, for the purpose of equalizing the movement of the arm D, with the loss of thread each stitch.

Second, the looper G, when constructed substantially as described, for making a loop in the thread, so that by passing the needle through it, as described, the hand button-hole stitch is produced.

Third, the method of feeding the work to the needle, by the irregular gear *g*, made in the form of a button-hole, in combination with suitable device for passing the needle entirely through the cloth, and then through the button-hole, as in hand sewing.

Fourth, the lateral motion of the table B, in combination with the arrangement of the needle carrier E and D and looper G, when constructed substantially as described.

Fifth, the segment W, when made with a V-shaped groove, the sides of which are lined with cloth, to prevent the thread from kinking.

No. 50,990.—CONRAD RODER, assignor to M. LANDENBERGER, Philadelphia, Penn.—*Loom for Cross Weaving.*—November 14, 1865.—This invention relates to a means for causing the warp threads to be crossed. Each heddle frame has rigid eye-pointed needles, and receives besides its vertical motions a lateral one which is imparted through the medium of levers operated by projections on a square spindle, to which, if desired, a pattern chain may be hung, when more elaborate patterns are required.

Claim.—The within-described combination of a shuttle, the heddle frame O, with its eye-pointed guides *n*, which carry a portion of the warp threads, and the frame N, with its eye-pointed guides *n'*, which carry the remainder of the warp threads, when both a vertical and lateral motion is imparted to each frame by the devices herein described, or their equivalents, for the purpose specified.

Also, the combination of the said heddle frames, the levers L and M, and shaft P, with its projection *i*, the whole being arranged and operating substantially as and for the purpose herein described.

No. 50,991.—CHRISTIAN C. SCHMIDT, assignor to SCHMIDT & BROTHERS, New York, N. Y.—*Steam Gauge.*—November 14, 1865.—This invention consists in the combination and arrangement of a spring, a connecting rod, and a segment rack.

Claim.—The combination and arrangement of spring E with the intervening spring F, connecting rod G, and segment rack K, substantially upon the principle and in the manner as hereinbefore set forth.

No. 50,992.—C. S. STEARNS and THOMAS COREY, assignors to themselves and SAMUEL BOYD, Marlboro', Mass.—*Buckle.*—November 14, 1865.—This invention consists of a buckle with a tongue acting as a bent lever, having one long and one short arm nearly at a right

angle to each other, the tongue being supported by a fulcrum pin passing through it, and two projections, which constitute the sides of a recess in the frame or body.

Claim.—An improved buckle, made substantially as described; that is to say, with its body constructed with the recess and holding lip, and with the tongue formed as a bent lever, in manner and applied to the body, and arranged in such recess, and with respect to the holding lip, in manner so as to operate as specified.

No. 50,993.—L. D. VALETTON, assignor to himself and H. W. HENSEL, Philadelphia, Penn.—*Jacquard Apparatus for Looms.*—November 14, 1865.—By this device the card shaft has not only its ordinary intermittent rotary motion but also an endwise movement when desired, so as to bring into action a different pattern upon the same cards.

Claim.—The adjustable arms M M′, with their projections *n n′*, combined with the card shaft G, substantially as and for the purpose specified.

No. 50,994.—E. W. WILSON and JOHN E. ERWIN, assignors to EMANUEL W. WILSON, Springfield, Mass.—*Car Coupling.*—November 14, 1865.—This invention consists mainly of peculiarly constructed, jaw-like, yielding, lever-acting couplings, one immovable and the other hinged, said couplings acting automatically through the operation of the cars to which they are affixed. A wrought-steel pin is arranged within the recess of the jaw of the upper part of the coupling, so that the hook ends of the connecting link rest and pull directly against the said pin instead of against the brittle cast metal lip of the jaw of the coupling.

Claim.—First, a car coupling of one rigid, semi bell-shaped jaw *a a b b*, provided with a cavity C and lip *d*, combined with a vertically yielding semi bell-shaped jaw K K, having an extended leverlike end *m*, the said jaws, when together, forming an enclosed cavity C and bell-shaped entrance C U V, Figs. 1, 2, 3, 4, and 5, substantially as shown and described.

Second, in combination with the bell-shaped jaws *a a* K, a movable detachable bolt *g g*, inserted transversely through the upper jaw *a a*, as shown in Fig. 4, substantially as and for the purpose set forth.

Third, in combination with the bell-shaped jaw coupling *a a* K, the fork-like hooked lifting device *p p* and the link *r*, having two hooking ends *s s*, substantially as set forth, shown, and described.

No. 50,995.—JOHN KEATS and WILLIAM STEPHENS CLARK, Street, Eng.—*Sewing Machine.*—November 14, 1865; patented in England April 14, 1863.—In this machine the shuttle and the hook-needle both operate above the table, the rotating thread-carrier which delivers thread to the hook being beneath the table and within a projecting arm. The feeding foot is connected by a spring hinge to a shaft or stock susceptible of being turned on its axis, to admit of feeding in various directions within a limit of about ninety degrees.

Claim.—First, the combination in a sewing machine of the following instrumentalities, viz., a table on which the material rests and is supported, a reciprocating feeding instrument to move the material along said table, and a hook, rotating guide, and shuttle to produce a lock stitch with two threads, all operating in combination substantially as set forth.

Second, the combination, in a machine for making a lock stitch, of a shuttle and hook, both arranged on the upper side of the table, substantially in the manner described.

Third, the arrangement of the shuttle and shuttle race of the sewing machine above the table or surface on which the material to be sewed rests.

Fourth, the arrangement of the apparatus herein described for operating a hook, a shuttle, and a feeder from eccentrics in one needle box, as above described.

Fifth, the arrangement of the apparatus herein described, for dividing the loop of thread that is drawn up by the hook, and for spreading the loop over the shuttle.

Sixth, the arrangement of the apparatus herein described for shortening or lengthening the stitch, and for feeding the work in different directions, in the manner above described.

No. 50,996.—EUGENE LANGEN, Cologne, Prussia.—*Furnace Grate.*—November 14, 1865.—This grate is composed of three or more tiers, in combination with a fire-box and trap grate. When in use, a continuous inclined plane of incandescent coals is formed from the upper tier to the lowest grate.

Claim.—A grate, composed of three or more tiers, in combination with a fire-box and trap grate, constructed and operating substantially as and for the purpose set forth.

No. 50,997.—WILLIAM WELD, Manchester, Eng.—*Machine for Making Fluted Rollers.*—November 14, 1865.—This invention consists in attaching to an ordinary planing machine device for giving to the roller an oscillating and rotary motion while being operated upon by the planing tool.

Claim.—So constructing and arranging the machine as to give the roller which is being fluted both a rotary and a vibratory motion, by the devices herein described and for the purpose described.

No. 50,998.—HENRY W. ADAMS, Irvington, N. J.—*Tanning.*—November 21, 1865.—This invention consists of an apparatus composed of a vat for containing the tanning liquor, wheels for guiding the hides, and rollers for pressing the tanning liquor from the hides. The

said rollers are covered with India-rubber, and the upper rollers are so arranged that they may be adjusted by means of screws to suit hides of different degrees of thickness. Between each set of rollers is arranged a set of perforated guide plates. The bearings of said rollers in contact with the tanning liquor are made of zinc or of metal coated with zinc. The journals of the rollers pass through stuffing boxes in the side of a vat and are connected with suitable gearing.

Claim.—First, the use of one or more pairs of rollers or rings B C, for forcing tanning liquor into skins or leather, driving it before them, horizontally or otherwise, through the pores of the same in contact with the gelatinous tissues, squeezing out the partially spent saturating liquor, stretching, pulling, working, and wringing them, substantially in the manner and for the purposes hereinbefore set forth.

Second, the mechanical construction and use of the tan vat, in combination with the wringing and stretching rollers B C D E, or either of them, substantially in the manner and for the objects stated.

Third, the feed rollers or tables F, in combination with the wringing and stretching rollers B C D E, or either of them, substantially in the manner and for the objects named.

Fourth, the wringing rollers D E, which work above the tanning liquor, in combination with the wringers and stretchers B C, which work below it, substantially in the manner and for the purposes specified.

Fifth, the use of zinc, or other metal galvanized with zinc, for linings, journals, bearings, stuffing boxes, and other useful purposes, in contact with tannic acid, when employed in the vat for tanning leather, substantially as described and for the purposes set forth.

Sixth, the guides N, by and between which the skins pass from one pair of rollers to the next following pair, in combination with the said rollers or wringers, substantially as described and for the purposes set forth.

Seventh, the use of stuffing boxes, in combination with the ends of the rollers which pass through the side of the tan vat for the purpose of preventing leakage of the tanning liquor, substantially as described.

Eighth, the screws G, or their equivalent, in combination with one roller of each pair, when the said rollers are employed for tanning leather, substantially as set forth, for the purpose of adjusting the space between the rollers of each pair, to accommodate different thicknesses of skins and the increasing thickness of the same skin, as the process of tanning advances.

Ninth, the use of India-rubber or equivalent flexible and yielding substance around the rollers or wringers, when the said wringers or rollers are employed for tanning or wringing skins or leather, but not otherwise, for the purpose of accommodating the space between the said rollers of each pair to the different thicknesses of the same skin, substantially as described.

Tenth, the entire mechanical process of expeditiously tanning leather, substantially in the manner herein set forth.

No. 50,999.—D. K. ALBRIGHT, Philadelphia, Penn., and L. H. DELANGE, Bordentown, N. J.—*Device for Ventilating Hats.*—November 21, 1865.—This invention is designed as an improvement on the patent issued to the same inventors June 13, 1865. It provides large spaces to permit the ingress of air alternately with corresponding projections to embrace the head.

Claim.—The combination with a hat enlarged near the brim of a series of blocks or projections D, arranged within the enlarged portion of the hat, substantially as described, for the purpose specified.

No. 51,000.—L. A. ALEXANDER, Colerain, Mass.—*Machine for Washing Dishes.*—November 21, 1865.—This invention consists of a rack for holding the dishes in place, a protecting rim to prevent the water from being dashed against the cover, and a single concave bottom in combination with the wheel.

Claim.—First, the rim G attached to the inside of the tub A, as and for the purpose set forth.

Second, the rack B for holding the dishes, constructed substantially as herein described.

Third, the single concave bottom I, having the inclinations as shown, in combination with the wheel L, for the purpose of causing the water thrown outward by the wheel to flow back within reach of the wheel again, as described.

Fourth, the cover D′, having the two side pieces hinged to the central piece, and the latter hinged to the body, as shown, in combination with the detachable wheel L, all constructed and arranged to operate as herein shown and described.

No. 51,001.—WILLIAM BALLARD, Brooklyn, N. Y.—*Artificial Teeth.*—November 21, 1865.—This invention consists in making hard rubber or vulcanite plates, having auxiliary air chambers in the upper surface from the gum ridge up to and surrounding a larger central air chamber.

Claim.—The new manufacture of hard rubber or vulcanite plates for sets of artificial teeth, having auxiliary air chambers in the upper surface thereof from the gum ridge up to and surrounding a central air chamber, in the manner and form substantially as hereinbefore set forth.

No. 51,002.—AARON P. BARNES, Boston, Mass.—*Spirometer.*—November 21, 1865.—In this invention a flexible or elastic bag contained within a metallic or other suitable case is inflated through an induction pipe, and the amount of air forced in is registered upon an upright graduated scale, driven in the process of inflation through an aperture in the top of the case.

Claim.—The application of a flexible elastic bag or bellows for spirometers, as described.

Also, the apparatus as constructed as an article of manufacture.

No. 51,003.—D. BASSETT, Killingly, Conn.—*Let-off and Take-up Motions for Looms.*—November 21, 1865.—The claim states the general object of this invention, which is too complicated to be briefly described.

Claim.—First, the balanced lever Q, with its adjustable screw for determining the extent of let-off motion to be given to the yarn beam, constructed and operating in connection with the variable diameter of the yarn on said beam, substantially as described.

Second, actuating the let-off pawl lever P by means of revolving wipers, substantially as described.

Third, adjusting the height of the arms U and *g*, respectively, of the pawl levers, by means of screws whose ends form rests or bearing surfaces for the heavy ends of said pawls, substantially as described.

Fourth, operating the pawl lever V by means of a shoe on one of the swords of the lay, substantially as described.

No. 51,004.—ALBERT BETTELEY, Boston, Mass.—*Preparations of Peat for Fuel.*—November 21, 1865.—This invention consists in reducing the peat to a pasty condition by any known process, after which it is spread out in a thin layer over a smooth absorbent surface, such as unglazed pottery, brick, or plaster of Paris. After it becomes sufficiently dry to be handled it is broken up and the remaining moisture is expelled by artificial heat or by exposure to the atmosphere.

Claim.—The combined operation in the process of preparing peat, substantially as described.

No. 51,005.—LEWIS F. BETTS, St. Louis, Mo.—*Lantern.*—November 21, 1865.—This invention consists in locking the base of the lantern by means of the fenders, the latter being made to hook under a flange around the base, and operated by a ring around the fenders.

Claim.—First, locking the base of lanterns on to the other portions of them by means of the fenders, which are made to hook under a flange running around the exterior of the cylindrical portion of the base.

Second, the combination of the fenders E, the lock ring F, and the flange *a*, when used on lanterns, as and for the purpose set forth.

Third, fastening the cylindrical portion of the cap C together by means of eyelets, substantially as described and set forth.

No. 51,006.—DANA BICKFORD, Boston, Mass.—*Mechanism for Operating Loom Shuttles.*—November 21, 1865.—In this invention the race is channelled for the play of the shuttle, and terminates at each end with a cylinder in which is a piston operated by condensed air. This piston drives the shuttle. The air is introduced through flexible tubes, and the valves may also be moved by any proper mechanism or by manual labor.

Claim.—The combination of the cylinders, pistons, valves, and ports, or their equivalents, arranged and to operate together, substantially in the manner and for the purpose specified.

Also, the combination of the cylinders, pistons, valves, ports and piston stops, or their equivalents, arranged substantially in the manner and for the purpose set forth.

No. 51,007.—REINHOLD BOEKLEN, Brooklyn, N. Y.—*Deep Well Pump.*—November 21, 1865.—In this invention the upper part of the piston is made with a series of vertical slits extending from centre to circumference of the cap of the piston and nearly down to the packing. To connect the piston to the rod two or four toggle links are extended from a grooved collar of the rod to the slitted expansible portion of the piston. The descent of the piston rod causes the toggle links to disconnect the piston from the rod, and the bind of the packing (as the disconnection takes place) against the well tube arrests the piston so that the valve descends with the rod and is locked open, when both piston and valve rod again descend together a certain distance. On the return stroke the piston is arrested in the same manner as it was on its descent, the valve is closed and locked in that condition. Thus the valve is opened and locked, or closed and locked, by mechanical devices, and it is not dependent upon a partial vacuum nor upon the pressure of fluids.

Claim.—First, in the construction of pumps adapted for elevating petroleum and other fluids from their wells, providing auxiliary mechanism for operating their valve or valves automatically and with a positive motion both in the up and down or back and forth strokes of the piston, substantially as and for the purpose set forth.

Second, in the construction of pumps providing auxiliary mechanism for holding their valve or valves either open or closed, substantially as and for the purpose set forth.

Third, the manner substantially as herein described, for arresting the piston of the pump during the time that the position of the valve or valves and the course of the piston are being changed, for the purpose set forth.

Fourth, the construction of the bottom valve or valves, so that the same shall be operated substantially as described for the purpose set forth.

No. 51,008.—REINHOLD BOEKLEN, Brooklyn, N. Y.—*Oil Ejector.*—November 21, 1865.—In this invention two tubes are arranged one within the other concentrically, the inner tube having a weighted indicating valve at its top; the outer tube admitting an influx of water, the inner an influx of air, until the oil in the well rises above openings near the bottom of the central and deepest tube, when the influx of air ceases and the continued influx of water through the outer tube, or the increase of oil in the well from its surrounding sources, causes the oil to ascend through the centre tube and by its pressure to overcome the resistance of the graduated weight upon the valve and thus expel all resisting air in the tube, and by flowing through the valve passage indicate to the superintendent that all is going on right, and that the escape or discharge cock at or near the top of the tube should be opened.

Claim.—First, raising petroleum from its wells by means of a combined air and water apparatus, which is constructed and operated substantially as set forth.

Second, introducing the petroleum into the tube which conducts it to the top of the well from between a body of water and a body of air or other light gas, substantially in the manner and for the purpose set forth.

Third, the valve H, or its equivalent, in combination with an apparatus which operates substantially as described, for the purpose set forth.

No. 51,009.—R. BURCHARDT and HENRY BERGMAN, Tompkinsville, N. Y.—*Composition for the Manufacture of Toys.*—November 21, 1865.—This invention consists of a composition of glue, five parts, sugar or honey, ten parts, glycerine, two and a half parts, and Paris white, three parts.

Claim.—The within-described composition made of glue, sugar or honey, and Paris white, mixed together, in about the proportions and substantially in the manner set forth.

Also, the use of glycerine, in combination with the above named composition, substantially as and for the purpose described.

No. 51,010.—J. DEWITT BRINCKERHOFF, New York, N. Y.—*Mode of Preparing Paper for Photographic Use.*—November 21, 1865.—This invention has for its object the production on paper of a surface adapted to the reception of photographic pictures. Such surface is produced by the use of a thin solution of gelatinous material and kaolin, or terra alba, after which the paper is submitted to the action of some astringent substance, as alum.

Claim.—The method herein specified of preparing paper and the surface of other materials for use in photography, for the purposes and substantially as specified.

No. 51,011.—WALTER BRYANT, Boston, Mass.—*Aero-vapor Burner.*—November 21, 1865.—In this invention the induction tube passes over the foraminous plate on the top of an upper frustum of a cone, and sufficiently large to allow a circuitous passage of the oil. The mixing chamber is made of two frusta of cones joined at their inferior bases. On the foraminous plate is a circular disk joined to another under the plate, but somewhat curved, and the combustion takes place at their edges; just above this is an annular flame guard.

Claim.—The improved vaporizer constructed substantially as described, viz: with the two chambers *a a* communicating with each other, and arranged with respect to their pipes of induction and eduction, as specified.

Also, the combination and arrangement of one or more deflectors or plates *m n* with the air and gas mixer, composed of the foraminous plate or wire-gauze disseminator and the tube for conveyance of air and combustible vapor to the disseminator.

Also, the arrangement and combination of the annular guard *p* with the air and gas mixer, and the deflector applied to it, as specified, such guard being made substantially as specified.

No. 51,012.—ANDREW BUCHANAN, Brooklyn, N. Y.—*Device for Controlling the Motion of Sewing Machines.*—November 21, 1865.—By this device the machine can be run faster or slower as desired, or entirely stopped while the driving power continues to be applied to the main shaft. The notched belt shipper is operated by hand, and the belt may thus be shifted from end to end of the cone pulleys; the driven pulley having at its extremity a loose pulley, so that when the belt surrounds it no motion is given to the machine.

Claim.—The adjustable notched spring bar *p*, in combination with the table of a sewing machine, and with a belt running over two cones secured to adjustable axles, and provided with cylindrical parts *u i*, substantially as and for the purposes set forth.

No. 51,013.—JOHN BUCHANAN, Aurora, Ind.—*Broom Head.*—November 21, 1865.—This invention consists in providing a metallic fastening to the broom corn in order to secure it to the handle.

Claim.—The notched adjustable staples *b b* and *c c*, with their collar plates *f f*, the curved plate *d*, with its hooks *e e*, and the strap *g*, all for the purpose as herein set forth and described.

No. 51,014.—TUNIS J. BURHYTE, Fond du Lac, Wis.—*Ditching Plough.*—November 21, 1865.—This invention consists in making a plough, or scoop, with cutting edges of the size and shape of the ditch to be cut, and so arranging a mouldboard that it shall receive the slice of earth cut out, and turn it upside down and deposit it alongside of the ditch, parallel therewith.

Claim.—First, a ditching plough having its side cutters P inclined backward, as shown, and extending in an unbroken line from top to bottom, in combination with the horizontal cutter C, arranged substantially as shown and described.

Second, the channel B, curved first to the left and then to the right, as shown and described.

Third, mounting the plough upon the independent adjustable side wheels L, and the adjustable caster wheel I, arranged to operate as and for the purpose set forth.

Fourth, the roller H, in combination with the roller O, provided with the curved teeth and the sprocket chain *d*, arranged to operate as herein described.

Fifth, providing a ditching machine, constructed as shown, with the adjustable draught rods *t*, as and for the purpose set forth.

No. 51,015.—RUFUS P. BURLINGAME, Rochelle, Ill.—*Washing Machine.*—November 21, 1865.—This invention consists in the arrangement within the box or tube of a washing machine of an oscillating cradle, or enclosure, containing the clothes, said cradle being constructed of parallel curved bars, having vertical spaces between them; and also in the combination of a series of curved stationary bars attached to the box.

Claim.—First, the arrangement of the oscillating slotted box F with the outer box A, substantially as and for the purposes specified.

Second, in combination with the oscillating slotted box F, the arrangement of the partitions D, constructed and operating substantially as herein set forth and shown.

No. 51,016.—L. BYRNES, Boston, Mass.—*Croquet Mallet.*—November 21, 1865.—This invention will be readily understood by reference to the claim and engraving.

Claim.—The construction of a croquet mallet with an elastic cap, forming the entire striking face of one or both of its ends.

Also, the formation of the cap with a flange *c*, and with a lip *d*, to fit and secure it to the mallet face, substantially as described.

No. 51,017.—STEPHEN M. CATE, Waterbury, Conn.—*Forming Sheet-metal Tubing.*—November 21, 1865.—This invention consists in forming two or more tubes out of one piece of sheet metal without separating them.

Claim.—First, the construction and combination of any number of cylinders or tubes more than one, formed from the same piece of solid sheet metal by means of dies, substantially in the manner and for the purpose above specified.

Second, the method of fastening the same, in the manner and for the purposes above specified.

No. 51,018.—J. H. CHADWICK, Boston, Mass.—*Pot for the Manufacture of White Lead.*—November 21, 1865.—This invention consists in contracting the lower end of the pot so as to form a ledge on the inside to support the lead.

Claim.—In pots for corroding or producing white lead, forming a shelf all around their inner sides, along or near the top of the basin which receives the acid, substantially as and for the purpose above described.

No. 51,019.—THEODORE L. CHASE, Philadelphia, Penn.—*Portable Press.*—November 21, 1865.—This invention consists of certain plates, right and left hand screws, and handles or arms, the whole being arranged for joint action as a letter press. Certain adjustable nuts are combined with these plates and screws, for the purpose of regulating at pleasure the distance between the plates.

Claim.—First, the combination of the screws C with their left and right handed threads, their arms or handles D, and the plates A and A′, the whole being arranged for joint action, substantially as set forth.

Second, the adjustable nuts B′, combined with the plates A A′, and screws C, substantially as and for the purpose herein set forth.

No. 51,020.—WARREN CHRYSLER, Lockport, N. Y.—*Stoppers for Fruit Jars.*—November 21, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—A stopper for fruit cans or jars composed of the disks *c d*, or their equivalents, cover *g*, and loop *f*, or its equivalent, arranged and operating substantially in the manner described.

Also, the annular groove *b* in combination with a stopper, constructed as described, substantially as and for the purpose set forth.

No. 51,021.—MICHAEL H. COLLINS, Chelsea, Mass.—*Amalgamator.*—November 21, 1865.—This invention consists of a circular tub having a frame attached to it, and extending above it, said frame forming a support for a central tubular shaft, and the gearing by which said shaft is rotated. To the lower end of said shaft is attached a circular plate provided with radial blades on its lower surface; above this plate, and attached to the tubular shaft is a series of circular plates. A series of annular plates are attached to the sides of the tub, and extend into the spaces between the circular plates. Near the top of the tub is arranged a perforated plate, above which is a scraper attached to the shaft.

Claim.—The combination, as well as the arrangement, of one or more wings *e*, or their equivalent, with the tubular shaft D, its plate C, and tub A, the whole being as and for the purpose or object hereinbefore explained.

Also, the combination, as well as the arrangement, of a series of plates C C1 C2, and a series of annuli C3 C4 C5, with the tub A and the tubular shaft D, or the same and one or more wings *e* applied to the said shaft or the lower plate C, the whole being to operate together, substantially as and for the purpose as specified.

Also, the combination, as well as the arrangement, of the foraminous partition E with the tub A, the series of plates and annuli, and the tubular shaft D, or the said shaft and its wing or wings.

No. 51,022.—ELIJAH H. COTTON, Manchester, N. H.—*Grinding Mill.*—November 21, 1865.—This invention consists of a bar vibrating under the hopper, and within the feed spout, and operated by means of a lug on the spindle, and a reacting spring. Its object is to prevent the choking or clogging of the grain in its passage from the hopper to the eye of the runner.

Claim.—The employment or use, in combination with a vibrating feed shoe for millstones, of a vibrating bar, arranged so as to work underneath the hopper and insure an even or regular discharge therefrom into the shoe, substantially as shown and described.

No. 51,023.—CHAS. W. CRAWFORD, Pittsburg, Penn.—*Slide Valve for Steam Engines.*—November 21, 1865.—This invention consists in the combination with the valve of a wedge-shaped pressure plate in the steam chest, but not attached to the chest or slide valve, yet susceptible of self-adjustment to the surface of the valve; also, in the combination of a slide valve and pressure plate for the purpose of keeping the latter in contact with the valve. The invention also consists in the arrangement, in high-pressure engines, of an exhaust passage for communicating with a condenser relatively to the slide valve.

Claim.—First, the combination with the slide valve of a steam engine of a wedge-shaped pressure plate, so constructed and arranged, substantially as hereinbefore described, as that it shall be sustained and supported in the steam chest, and yet not attached either to the steam chest or slide valve, so as to be susceptible of self-adjustment to the surface of the slide valve, without the need of any adjustment from without.

Second, in combination with a slide valve and pressure plate, constructed substantially as hereinbefore described, a spring operating on one side of the pressure plate, for the purpose of keeping it in contact with the valve, and preventing its displacement when the engine is not in operation.

Third, the arrangement, in high-pressure engines, of an exhaust passage for the escape of steam from the cylinder, in addition to the exhaust pipes or passages which communicate with the external air, such additional exhaust passage communicating with a condenser, and being so arranged, relatively to the passage in the slide valve, as to exhaust the remaining steam, toward the end of the stroke, into a condenser, substantially as and for the purposes hereinbefore described.

No. 51.024.—JAMES CUNNINGHAM, Bangor, Me.—*Tobacco Pipe.*—November 21, 1865.—In this invention the chamber for the tobacco has several perforations in the bottom opening into the stem; this being formed around the lower part of the bowl, makes a large chamber, which extends up to the point where the mouth-piece is fitted.

Claim.—First, the socket and reservoir B, in combination with the bowl A, when arranged and constructed substantially as described.

Second, the combination of socket and reservoir B, bowl A, mouth-piece *a*, and tube *b*, when constructed and arranged to operate substantially as described.

No. 51,025.—ESTABAN DALMAN Y SALA, New York, N. Y.—*Propeller.*—November 21, 1865.—This invention relates to a propeller of that class commonly known as a duck's-foot propeller, and generally constructed with two wings, which open as the propeller advances against the water, and which close when the propeller recedes.

Claim.—First, the carriages *h* and cams *j*, in combination with the frame B and wings C of the propeller, and with the cross-head *d*, constructed and operating substantially as and for the purpose set forth.

Second, the cog wheels *g* and racks *k*, in combination with the cams *j*, cross-head *d*, and with the propeller B C, constructed and operating substantially as and for the purpose described.

Third, the yoke S, shoulders *r r'*, and cross-head *p'*, in combination with the rods *c i*, carriages *h*, and propeller B C, constructed and operating substantially as and for the purpose set forth.

Fourth, the movable slides *n*, in combination with the carriages *h*, and with the propeller B C, constructed and operating substantially as and for the purpose described.

No. 51,026.—EBENEZER DANFORD, Geneva, Ill.—*Steam Generator.*—November 21, 1865.—This invention consists in the combination of a spherical generator placed within a furnace and directly above the grate with the pipe and feed pump, when so adjusted that water injected into the superheated steam within the generator, in a quantity regulated to the action of the fire and heating surface and the contents of the generator, is immediately converted into steam and superheated without the water, as such, coming in contact with the surface of the generator.

Claim.—The combination of the heated generator A, filled with superheated steam, with water-injecting pipe C, or C', or C'', and force pump G, when so adjusted that water injected into the superheated steam, in quantity regulated to the action of the fire and surface and contents of the generator, is immediately converted into superheated steam, all substantially as herein described.

No. 51,027.—W. B. DAVIS, Brooklyn, N. Y.—*Packing for Piston Rods.*—November 21, 1865.—This invention consists in a body of cord composed of canvas or other textile fabric or fibrous material, around which is woven or braided a fabric composed of fine wires of some suitable metal, in such a manner as to present a metallic surface for contact with the piston or other rod which works through it.

Claim.—A packing composed of a body or cord A, of suitable material, in combination with a covering of wires, interlaced, woven, or braided round the same, substantially as and for the purpose described.

No. 51,028.—JOHN ELDRIDGE, West Buxton, Me.—*Pump.*—November 21, 1865; antedated July 17, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, the chambers A B and C, in combination with the openings *a* and valves *b c* and *d*, arranged and operating as and for the purpose set forth.

Second, the arrangement of the pivoted standards I, cross levers H, and posts G, provided with guides, as and for the purpose set forth.

No. 51,029.—HARRISON C. ELLINWOOD, Garretsville, Ohio.—*Pitman for Saws.*—November 21, 1865; antedated November 18, 1865.—This invention consists of a double guide, operated by a continuous slide movement, so as to actuate, as a short pitman, a muly saw. The object is to place the saw near to the driving wheel by a short gearing, to prevent the trembling motion of the saw and give it a more regular operation, producing a smoother and more even sawing.

Claim.—The arrangement and combination of the double guide rods J with their frame D, slide E, and rod H, operating as a short pitman, as herein described and for the purposes set forth.

No. 51,030.—CHARLES R. ELMER, Bridgeton, N. J.—*Millstone Pick.*—November 21, 1865.—This invention consists of a metal head, provided with certain lugs and a thumb screw, combined with a double-edged cutter adapted to the screw and head.

Claim.—The head A, with its lugs *b b* and thumb screw E, in combination with the cutters C, constructed and adapted for attachment and adjustment to the head and screw, substantially as described, for the purpose specified.

No. 51,031.—JOHN FERNALD, Frankfort, Ind.—*Cultivator.*—November 21, 1865.—This invention consists in a peculiar mode of connecting the back of the seat with the levers of the moving shares, and also in the double-plated perforated shields that move on each side of the row of corn being cultivated, allowing fine soil to sift through around the plants.

Claim.—First, the movable seat M, connected to the levers K K, in the manner and for the purpose described.

Second, the double-plated perforated rolling shields V V, when used in the manner and for the purpose described.

No. 51,032.—IRA C. and F. W. FLAGG, Middletown, Conn.—*Row Lock.*—November 21, 1865.—This invention consists, first, in extending the socket tube of the bed-plate, in which the stem of the horn works, down into the gunwale, the stem being made longer than usual, so as to extend down to the lower edge of the socket; secondly, in setting the stem of the horn so that its centre of motion is outside of said horn, whereby the latter is capable of taking position outside or inside the gunwale, as well as above it, thereby producing a side-swivel row lock; and, thirdly, in protecting the joint of the stem from the water.

Claim.—First, constructing row locks substantially in the manner described, when the

stem which is the centre of motion is made a part of and placed at one side of the horn, and combined with the plate in which the stem revolves, so as to extend below the surface of the gunwale, as and for the purpose herein set forth.

Second, extending the socket tube of the plate, in which the stem of the horn revolves, down below the bottom of the plate and into the gunwale, substantially as and for the purpose above set forth.

No. 51,033.—H. H. FLEMING, Kokomo, Ind.—*Horse-collar Fastening.*—November 21, 1865.—This invention consists of two metallic plates, the one carrying a supplementary plate on its top having L-shaped grooves, and the other carrying projecting pieces made to fit into them, and so arranged that the length of the fastenings may be varied to draw the two sides of the collar nearer together, or let them fall farther apart.

Claim.—A fastening or clasp for fastening together horses' collars, constructed substantially as herein shown and described.

No. 51,034.—ALBION P. FLOYD, Niagara Falls, N. Y.—*Door Bolt.*—November 21, 1865.—This invention consists in the construction and arrangement of a vibrating bolt and the socket in which it operates, and in the manner of inserting it in the edge of the door.

Claim.—The vibrating bolt A, with the plates D and A′, shaft E, and crank E′, when constructed, applied, and operated as described and for the purposes specified.

No. 51,035.—ALEX. FORBES and JOHN MACBETH, Cleveland, Ohio.—*Refrigerator.*—November 21, 1865.—In this invention the ice chamber is constructed of rectangular slats, which are curved out on one side and arranged in two series so as to break joints, and are inclined outward from the base to the top. These slats form gutters, which carry off all the water from the melting ice placed in the chamber, and, it being suspended from the top of the case, the cold air descends into the various parts of the refrigerator in which are placed the articles to be preserved, and the peculiar construction of the ice chamber prevents water from the ice being brought in contact with any of the compartments of the refrigerator, thus keeping it cool and dry.

Claim.—First, the ice chamber D, constructed and arranged with curved double slats, in combination with the trough, as and for the purpose set forth.

Second, the tapering ice chamber D, in combination with the refrigerator, when constructed and arranged in the manner and for the purpose set forth.

No. 51,036.—JAMES B. FORSYTH, Roxbury, Mass.—*Apparatus for Curing India-rubber.*—November 21, 1865.—This invention consists of an apparatus composed of two plates or heaters, one of which is stationary and the other suspended from suitable screws, in combination with a jacket, the lower part of which is stationary, whereas the upper part is made to rise and fall, and surrounds the pressing plates partially or wholly in such a manner that, by admitting steam or other suitable heating medium to the jacket, the goods between the plates can be heated to any desired degree without coming in direct contact with the heating medium.

Claim.—First, the employment or use, for curing goods of India-rubber or allied gums, of an apparatus composed essentially of two plates, which can be compressed by screw rods or other suitable means, and which are partially or wholly enclosed in a suitable jacket, to be heated by steam or other suitable heating medium, substantially as herein set forth.

Second, the raising, lowering, or opening of said jacket, by means of screw rods or other suitable means, constructed and operating substantially as and for the purpose described.

Third, the packing strips S, in combination with the plates A* D*, and jacket B* C*, constructed and operating substantially as and for the purpose set forth.

No. 51,037.—ROBERT W. GARDNER and JOHN ROBERTSON, Quincy, Ill.—*Governor Valve.*—November 21, 1865.—This invention relates to the introduction of a balanced, free-working governor valve for steam engines, to be actuated by the governor mechanism. Its novelty consists in the arrangement, in a hollow valve, of the collars, chamber, and seats.

Claim.—A hollow valve provided with three collars C D E, arranged and operating in a case or chamber A, with four seats *a b a′ b′*, substantially as and for the purpose described.

No. 51,038.—J. GIBBS, Warren, Mass.—*Spooling Machine for Tape Looms.*—November 21, 1865.—This apparatus is designed to be attached to the frame of tape looms, so that the operative attending the loom may also attend to the winding of the yarn upon the bobbins. When the bobbins are full the belt shipper automatically shifts the belt from the fast to the loose pulley.

Claim.—First, the combination with the frame A, of the supporting brackets B B, projections or arms C D and G H, as and for the purpose stated.

Second, the combination with the shipper R, of the spring K, groove *e*, shipper pad T, and shipper rod S, substantially as set forth.

Third, the combination of the cam P, gear F, screw shaft E, with guide rod O, and guide N, constructed and arranged substantially as and for the purposes set forth.

No. 51,039.—JOHN GREEN, Lowell, Mass.—*Machine for Printing Calico.*—November 21, 1865.—This invention is explained by the claim and engraving.

Claim.—The printing of a square, or rectangular, or other endless border with one cylinder, and printing figures within the space enclosed by such border by one or more cylinders having a diameter or diameters less than that of the border-printing cylinder.

Also, the printing of a right line border, or one with two ends with one cylinder, and printing the filling between such border by means of one or more cylinders having a diameter or diameters less than that of the border-printing cylinder.

Also, in combination with the printing cylinder D, the bed cylinder A, and the blanket E, the border-printing cylinder C, having a diameter larger than that of the printing cylinder D, and prepared so as to print a border as specified.

Also, the combination as well as the arrangement of the equalizing speed roller B, the blanket E, the bed cylinder A, the printing cylinder D, and the border cylinder C, the two pulleys *l m*, and the belt *i*, or the equivalent thereto.

Also, the arrangement of the inking belt *d*, and its operative mechanism, the border-printing cylinder C, the bed cylinder A, the printing cylinder D, and the blanket E.

No. 51,040.—JOHN J. GREENOUGH, New York, N. Y.—*Circular Loom.*—November 21, 1865.—In this invention the sole of the shuttle race is formed by the reed; the shuttle has a roller at its heel by which it receives its impulse from a revolving arm having a positively revolving roller at its end; a projecting wedge-shaped fin on the shuttle, having rollers thereon, causes the forcing or beating up of the weft threads in the shed. An inner and outer ring nearly touching at the line where the warp threads cross each other, relieve the warp from strain when the shuttle is beating up.

Claim.—The employment of two or more shuttles, constructed as herein described, in a circular race, the sole of which is formed as described, and following each other continuously in one direction, and weaving, substantially as and for the purposes set forth.

Also, in combination with the ring W, the flaring or expanding of the warp, substantially as and for the purposes set forth.

Also, the employment of the ring W, and the disk W′, at the line where the cloth is formed, substantially as and for the purposes herein set forth.

Also, beating up the filling by means of the shuttle, when combined with a circular race and ring W, substantially as herein set forth.

No. 51,041.—C. B. GUY, Elkader, Iowa.—*Rein Guard for Vehicles.*—November 21, 1865.—This invention consists of a device for preventing the lines or reins from dropping under the front end of the draught pole, a contingency of not unfrequent occurrence, and which is always attended with considerable annoyance.

Claim.—A rein guard for vehicles, constructed and applied to the draught pole, to operate in the manner substantially as and for the purpose herein set forth.

No. 51,042.—CHARLES A. HARDY, Pittsburg, Penn.—*Oil Still.*—November 21, 1865.—This invention is fully described by the claim.

Claim.—Constructing a still for the distillation of oil and other liquids, with an outer chamber, enveloping it on top and at the sides, so as to leave a space above and around or partly around the inner or main still, thus forming an outer and inner chamber communicating with each other by one or more siphons or valves for the purpose of heating the oil or other liquid, and vaporizing its lighter constituents before its admission into the main or inner still, and thus effecting an economy of heat.

Second, surrounding the main still laterally with a space, through which the fluid to be distilled passes before entering the main still, for the purpose of preserving a more uniform temperature in the still, and preventing the escape of heat, and also to prevent the necessity of encasing the still with any solid non-conductor of heat, so that when the still is emptied it may be more readily cooled.

Third, the use of a coke receptacle, or pit, extending from a point at or near the circumference of the still, towards and near to its centre, situate under the bottom of the still, and communicating therewith, for the purpose of receiving the residuum deposited therein by means of the scraper.

Fourth, the use of a removable drawer for the coke or residuum, placed under an opening in the bottom of the still, in combination with the valve for closing the opening in the still when the drawer is to be removed, substantially as and for the purpose hereinbefore described.

Fifth, the use of a tapering slide valve in the bottom of the still, operated by suitable means, for the purpose of closing tightly the opening in the still bottom, substantially as hereinbefore described.

Sixth, the use of a hollow valve case so constructed and arranged, substantially as hereinbefore described, as to receive the sliding valve, which opens and closes the hole in the still bottom, when the valve is to be withdrawn, without allowing the escape of oil.

Seventh, the use of a scraper, consisting of a number of fingers or shovels, pivoted, hinged, or otherwise so attached to revolving arm or arms as to press upon the bottom of the still and rise over any obstruction for the purpose of cleaning the residuum from the bottom of the still, constructed and operating substantially as hereinbefore described.

No. 51,043.—GEORGE W. HART, Aurora, Ind.—*Baling Press.*—November 21, 1865.—This invention belongs to that class of baling presses which employ a packer or beater, and it consists chiefly in certain improvements in packers, and in the construction and operation of automatic feed doors.

Claim.—First, the mode of holding a self-operating feed door, shut by the arms O O′, and rods P P′, at or near a dead centre in the described combination with the self-starting and counterbalancing arm Q.

Second, the plurality of sweeps J and K, of unequal width for operating a self-feeding door H, to bale mixed forage, substantially as set forth.

Third, the hollow packer, provided on its under surface with projections or inequalities W, as specified.

Fourth, the reversible parts M N *n* O O′ P P′ Q *q q′* R R and S, in combination with the shifting sheave block *m*, for operating either feed door H, as set forth.

No. 51,044.—HORATIO T. HEWITT, Scotch Plains, N. J.—*Clock Escapement.*—November 21, 1865.—This invention is designed as a modification of the single-pin escapement adapted to timepieces having a balance wheel. The pin of the escape wheel rests in a V-shaped slot in a vertical oscillating lever, which is bent near its extremity. The edge of the bent portion is provided with notches, in which two pins, fastened to the under side of the balance wheel, play.

Claim.—The combination and arrangement of the single-pin escape wheel, the slotted lever and the balance, substantially as and for the purpose herein specified.

No. 51,045.—MICHAEL HEY, Philadelphia, Penn.—*Cord Tightener for Window Curtains.*—November 21, 1865.—This invention consists of a screw, arranged and secured vertically between two stationary brackets, connected together by a suitable case, so as to support and at the same time allow the screw to be rotated in either direction, in combination with a traversing block having the cord button attached thereto.

Claim.—The employment of the screw A, block C, and button D, in combination with a suitable frame or case B, the same being constructed and arranged to operate together when applied, as and for the purpose described.

No. 51,046.—HOLMES HINKLEY, Boston, Mass.—*Steam Boiler.*—November 21, 1865.—This invention consists in the arrangement within a steam boiler of three distinct series of tubes or flues, and three separate combustion chambers with reference to the fire box, in such a manner that the products of combustion pass through the upper series of tubes to the upper chamber in the smoke box, and then return to a chamber located in the body of the boiler just forward of the fire box, from which they pass through the lower series of tubes to another chamber in the smoke box, and from this up through the pipe into the atmosphere.

Claim.—The arrangement of the three series *k l m* of smoke tubes, and the two auxiliary smoke boxes or chambers *e f*, with the main smoke box *g*, the furnace, and water space O, of the boiler.

No. 51,047.—DELIA C. HOLDEN, Cleveland, Ohio.—*Darning Last.*—November 21, 1865.—This invention consists of a last made with a hard and smooth surface, as glass or metal, of an oval form, with sides flattened, to place within a stocking to hold it when being darned.

Claim.—The construction of a darning last, when made of a flattened oval form, and with hard and smooth surfaces, for the purpose and in the manner substantially as described, as a new article of manufacture.

No. 51,048.—WILLIAM and JAMES HOLROYD, Waterford, N. Y.—*Die Stock.*—November 21, 1865.—This invention consists in constructing the die stock with sockets for the shanks of the screw taps, and is claimed as an article of manufacture.

Claim.—As an article of manufacture, a screw-cutting die stock, having two handles, and provided with a socket or sockets for the shank or shanks of a screw tap or taps, substantially as herein described.

No. 51,049.—J. G. C. HORTON, Litchfield, Ill.—*Weather Strip and Stop.*—November 21, 1865.—The object of this invention is to produce a stop that will thoroughly close the interstice between the door and its threshold to prevent wind and rain from entering therein; and will also act as a bolt, which will securely fasten the door.

Claim.—The stop B, and the shank D, with the spring *d*, and face plate E, in combination with the door A, for the purpose of forming a combined weather stop and door bolt.

No. 51,050.—JAMES HOTCHKISS and EZRA BUSS, Springfield, Ohio.—*Brick Machine.*—November 21, 1865.—This invention consists, first, in raising the followers to the proper thickness of the bricks while yet under the pug-mill, after lowering them in their moulds so as to receive a surplus quantity of clay in the same, thus making the bricks very compact, and wasting no clay; secondly, in the employment of a yielding pressure plate for the bricks to pass under immediately after leaving the pug-mill, it being made self-removable in case of

obstructions; thirdly, in a spring scraper to remove all loose clay from the mould wheel at each revolution; fourthly, in the employment of set screws in the sides and ends of the mould followers, for the purpose of adjusting the faces thereof, to make the bricks of even thickness at all times.

Claim.—After lowering the followers, while the moulds are passing under the pug-mill, so as to receive a surplus of clay in the moulds, and the raising of the followers, so as to expel the surplus clay while still under the pug-mill, substantially as and for the purpose herein specified.

Also, the adjustable, yielding, and removable striking and pressure plate R, arranged and operating substantially in the manner herein set forth.

Also, the spring scraper *r*, as described and for the purposes herein set forth.

Also, the set screws *n n*, or their equivalent, in the sides of the followers or moulds, substantially as and for the purposes herein specified.

No. 51,051.—CHARLES HOUGHTON and ROBERT S. LEWIS, Attica, N. Y.—*Reservoir Drill for Tube Wells.*—November 21, 1865.—This invention consists in the method of constructing a drill, which is provided with a reservoir, for tube wells. These drills are usually made of cast-iron with chilled points, or wrought iron with steel points, with perforations or slots for the induction of water; they are secured to an iron tube of any convenient size, and driven into the ground in any light or gravelly soil to the required depth.

Claim.—A conical reservoir drill with perforations, or their equivalents, for admitting the water to said reservoir, provided with a flange that fits around the pipe at its connection therewith, for the purposes and substantially as herein described.

No. 51,052.—DAVID H. HOXIE and THOMAS L. REED, Providence, R. I.—*Manufacture of Flexible Tubing.*—November 21, 1865.—This invention is designed as an improvement upon a patent granted to the same parties September 27, 1864. It consists in preserving the animal intestines in a moist and soft state by means of a composition of glue and glycerine, whereby they are prevented from cracking and becoming leaky from usage.

Claim.—First, preserving animal intestines and like animal tissues in their natural moist condition by means of a compound of glycerine and glue, or other material or compound that will remain unaffected by extremes of temperature, as described.

Second, the use of a compound of glycerine and glue in the requisite proportions, in combination with a covering of fibrous material, as and for the purpose described.

Third, the tubing constructed wholly or in part of the materials combined in the manner and for the several purposes herein set forth and described.

Fourth, the enamel varnish compound, substantially as described.

No. 51,053.—THOMAS S. HUDSON, East Cambridge, Mass.—*Machine for Cancelling Stamps.*—November 21, 1865.—This invention employs a plunger containing the types for printing the names of the months and the numbers of the years, and also containing an endless chain of thirty-one links, on each of which are types for printing the numbers of the days of the month. This endless chain passes around two wheels, the upper one of which is provided with notches, into which takes a spring latch which regulates the movement of the wheel.

Claim.—The arrangement of the spring latch, viz: within and so as to project from the plunger and operate directly with the chain wheel, in manner as specified.

No. 51,054.—MARGARET HULINGS, Indianapolis, Ind.—*Spinning Machine.*—November 21, 1865.—This invention is designed as an improvement on a patent granted the same inventor June 3, 1851. Each compartment of the box contains a ball of double yarn wound on solid balls so that they may freely unwind to the end; the guard prevents the ends of the yarn, when broken, from catching and winding about the axle of the wheel, and the slots and set screws allow the bands which drive the spindles to be tightened by the pressure upon them of the tightener.

Claim.—The combination and arrangement of the box 6 with the apartments 7 and 8, placed upon the carriage K, the tightener 1 and box 2, with slots and set screws 3, and the guard 5, all operating substantially as and for the purpose described.

No. 51,055.—HANFORD INGRAHAM, Naples, N. Y.—*Cultivator.*—November 21, 1865.—This invention consists of a notched and slotted plate on the upper end of the shank of the tooth. A bolt passes through the slot, and a pin in one or another of the notches secures the tooth in the desired position.

Claim.—The shank A, with circular or curved plate *a*, having a series of notches or cuts *a'* and slot *c*, whereby the same may be adjusted either laterally, angularly, or otherwise, by means of stationary pins *d* or movable pin, or their equivalent, either with or without a slot in the plate, as may be desired, substantially in the manner and for the purpose herein set forth.

No. 51,056.—HENRY ISHAM, New Britain, Conn.—*Water Meter.*—November 21, 1865.—In this invention a group of cylinders, each provided with a piston, is arranged about a

central axis of rotation, their lower open ends in their revolution, passing in succession over an induction way to receive the water or other fluid which actuates the pistons, and over an eduction way, the rods of the pistons being connected with a plate or the arms of a hub which turn on an axis placed at an angle with the axis of the group of cylinders.

Claim.—The cluster of cylinders capable of revolving about a common centre, provided with pistons, substantially as described, in the combination with the inclined plate, or the equivalent thereof, with which the piston rods are connected, and with the bed plate and its induction and eduction ways, substantially as and for the purpose specified.

Also, in combination with the cluster of cylinders and the bed plate, the case surrounding the cluster of cylinders and the eduction aperture or port to discharge into the case, substantially as and for the purpose described.

No. 51,057.—CHAS. H. JACKSON, St. Louis, Mo.—*Clothes Dryer.*—November 21, 1865.—This invention relates to that class of clothes dryers that revolve upon a post and can be folded into a small compass.

Claim.—The combination and arrangement of the post A with the annular plate B, the arms C and C′, and brace E, and tie frame D, substantially as and for the purpose set forth.

No. 51,058.—F. H. JAMES and N. B. GATCHELL, Lancaster, Penn.—*Clamping Pontil.*—November 21, 1865; antedated November 8, 1865.—This invention consists in so constructing the pontil that the neck of the bottle may be easily and quickly inserted, and by means of a spring firmly held in its position until finished, when it may be readily removed.

Claim.—First, a bevel conical ring A, in combination with the disk F, operating substantially as and for the purposes described.

Second, the pontil tube or handle C, in combination with rod D, spring *h*, and disk F, operating in the manner as and for the purposes herein set forth.

No. 51,059.—HORATIO JORDAN, Norfolk, Conn.—*Window and Door Fastener.*—November 21, 1865.—This invention consists in a slotted plate, on the inner surface of which is pivoted a vibrating bolt, also slotted. A shank of a sliding handle passes through the slot in the plate, and also in the bolt, and is held in place by means of a washer.

Claim.—The combination of the slotted plate, slotted bolt, and detached sliding knob or handle, all constructed and arranged substantially as described.

No. 51,060.—J. G. KILGOUR, Brooklyn, N. Y.—*Cement for Steam Joints.*—November 21, 1865.—This invention consists of a composition of litharge, forty-five parts, sugar of lead, two and a half parts, Venetian red, two and a half parts, whitening, twenty-two parts, and yellow ochre, twenty-eight parts.

Claim.—First, a cement, composed of litharge, sugar of lead, whitening and yellow ochre, mixed together in suitable proportions, substantially as and for the purpose set forth.

Second, a cement, composed of litharge, sugar of lead, whitening, and yellow ochre, mixed with Venetian red in suitable proportions, as described.

No. 51,061.—SAMUEL P. KITTLE, Brooklyn, N. Y.—*Spring Bed Bottom.*—November 21, 1865.—This invention consists in forming the slats with bevelled edges and connecting the same by webbing so that the whole can be rolled into a small compass. The bracing springs are attached to the coil supporting springs at a point below the first coil and above the centre of the said supporting springs.

Claim.—First, constructing the slats to which the springs are attached with bevelled edges, and weaving these slats together with webbing or strips of cloth extending through the series, so as to form close hinges, in the manner hereinafter described, or weaving in the slats bearing the springs and blocks in place of the others, in the same manner.

Second, attaching the bracing springs to the coil-supporting springs at a point below the first coil and above the centre of the said supporting spring, as set forth.

No. 51,062.—F. D. LADENBERGER, Glenbeulah, Wis.—*Harness.*—November 21, 1865.—The object of this invention is to guard the horses against the violent thrashing about of the wagon tongue, and it consists in two straps and a spring attached to each other, and to the hames, neck yoke, and wagon tongue.

Claim.—First, the straps F and J, in combination with the spring I, hames C, and neck yoke B, substantially as described, and for the purpose set forth.

Second, the spring I, in combination with the wagon tongue A and the straps F and J, substantially as described, and for the purposes set forth.

No. 51,063.—JOHN P. LAIRD, Altoona, Penn.—*Railroad Car Truck.*—November 21, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, the main frame, composed of the cast-iron pieces A A, and plate-iron transverse beams B B′, the whole being constructed substantially as described for the purpose specified.

Second, the combination of the above with the bars F and H, braces G G, and the guides D and D′, or their equivalents, for the reception of the axle boxes.

Third, the cast-iron bar L, having sockets for the reception of the spring bands *f f*, in combination with the permanent hangers M M′.

No. 51,064.—THEODORE C. LAW, Green Island, N. Y.—*Broiler and Toaster.*—November 21, 1865.—This invention consists of a pair of spring jaws hinged together so as to retain the bread or meat between their grated surfaces.

Claim.—As an article of manufacture the broiler and toaster, constructed as described and represented.

No. 51,065.—HENRY LOFTIE and EGBERT HINMAN, Syracuse, N. Y.—*Drill.*—November 21, 1865.—This invention consists in the combination of a drill or cutters and reamer, for drilling and reaming artesian wells.

Claim.—The cutters *a* and *b*, in combination with reamer *d* and cutter *c*, arranged in relation to each other, substantially as described.

No. 51,066.—CHARLES LORING, South Braintree, Mass.—*Door Threshold.*—November 21, 1865.—This invention is fully described by the claim.

Claim.—A water stop threshold in which the water groove or channel running around the top surface, near the inner edge of the threshold, has an inclination from each end toward and so as to conduct the water into a conduit leading from the centre of the groove, beneath the threshold and to the front side thereof, substantially as set forth.

No. 51,067.—PETER LUGENBELL and JAMES S. ARMSTRONG, Greensburg, Ind.—*Ditching Machine.*—November 21, 1865.—This invention consists of an arrangement of devices for cutting an open ditch or drain of any desired length, and with a comparatively small expenditure of power; it will be understood by reference to the claim and engraving.

Claim.—First, the combination of the excavating share H, and sides P P, of the side-discharging chute L, when said sides are formed in front with cutting edges, and all arranged to operate as and for the purposes herein set forth.

Second, the arrangement of the parts H M M′ N *n* O P P′ Q and S S′, or their mechanical equivalents, for expanding and contracting the chute and securing its free discharge or delivery, substantially as set forth.

Third, the arrangement of parts A B B′ *b b′* C D E F and G, for enabling our excavating and discharging apparatus to cut a ditch of any desired uniform depth.

No. 51,068.—DANIEL MCAFEE, Pittsburg, Penn.—*Glass Pot.*—November 21, 1865.—This invention consists of a glass-house pot, with a partition wall dividing the interior into two or more compartments, each communicating with the outside through the neck and with each other through a series of openings at the bottom.

Claim.—A glass-house pot, with a partition wall dividing the interior into two or more compartments, each communicating with the outside through the neck and with each other through a series of openings at the bottom, and so constructed as that the latch or composition as it melts in one apartment will flow through into the other, from whence it can be taken and worked in the usual manner.

No. 51,069.—WM. C. MCCARTHY, Pittsburg, Penn.—*Instrument for Measuring Liquids in Casks.*—November 21, 1865; antedated November 2, 1865.—This invention consists of a glass tube graduated in divisions, having at its lower end a water-tight stop which can be opened by means of a rod which passes through the tube, and has attached to its upper extremity a spiral spring. Upon the brass case which surrounds the tube is a graduated scale, and also a projection which, when the tube is placed in the cask, bears against it inside near the bung-hole. The tube having been inserted in the cask, the valve is opened and the liquid rises to the same height in the tube as in the cask. The outside brass scale is then drawn up until the projection reaches the cask; by closing the valve and withdrawing the tube both the amount of liquid in the cask and its ullage will be shown.

Claim.—A transparent gauging tube, with or without a metallic casing, with openings to see through, having a scale of figures engraved or otherwise affixed thereon, and a valve at the bottom, operated by a rod and spring, substantially in the manner and for the purposes herein set forth.

Also, combining with the transparent tube and valve a sliding or stationary scale to indicate the ullage, substantially as hereinbefore stated.

No. 51,070.—LEWIS MILLER, Akron, Ohio.—*Rake Attachment to Harvester.*—November 21, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, the stationary centrally supported elevated table A, for holding up the heads of the grain while the rake arm passes around underneath the table and between it and the platform, substantially as and for the purpose described.

Second, in combination with the elevated table for holding up the heads of the grain, the raised ledge on the platform for holding up the buts thereof, so that the rake will with certainty sweep off the grain that bridges the space between them, substantially as described.

Third, inclining the table from its rear toward its front, so that the grain may not pass under to interfere with the free working of the rake, while the rake arm and its connections can freely turn underneath the table, substantially as described.

Fourth, in combination with the elevated table and platform the two open spaces between the ends of the table and the sides of the platform, for the revolving rake to pass in to take and to pass out to deliver the cut and gathered grain, substantially as described.

No. 51,071.—LEWIS MILLER, Akron, Ohio.—*Rake Attachment to Harvester.*—November 21, 1865.—This invention consists in the application of a sliding clearer to the teeth of a horizontally rotating rake, said clearer being operated by cam-ways on the platform in such a manner as to assist the rake in sweeping the grain across the platform, and then to cause the grain to be cleared from the teeth of the rake; it further consists in an arrangement of the gear wheel that rotates the rake arm on a central hub or stud that serves also as a support to the grain table arranged over the platform, leaving an unobstructed space between the platform and such grain table for the rake arm to sweep or turn in.

Claim.—A clearer for pushing the grain from the rake, when said clearer is operated from guides or switches placed on the platform, substantially as described.

Also, the combination of a rake and clearer, when so operating as that the latter is made to aid the former in carrying the grain around the point of delivery, and then push it off from the rake, substantially as described.

Also, the combined action of the movable bent arm on the clearer or rake, and the stationary but arm on the grain table, the two operating to prevent the grain from falling into the open space through which the rake moves, substantially in the manner herein described.

Also, the use of the stationary stud *i* as a permanent support for the wheel that carries the rake to move around, and as a stationary support for the grain table, and to make an unobstructed space for the rake arm to sweep or turn in, substantially as described.

No. 51,072.—JOHN G. MOORE, Philadelphia, Penn.—*Orrery.*—November 21, 1865.—The object of this invention is to simplify the construction of an orrery; and also to obtain a means by which the plane of revolution of the planet can be adjusted to any degree of inclination.

Claim.—First, the combination of the stationary crown wheel B with the sleeve A, the latter carrying gear wheels which utilize the horizontal motion of the shaft X in the rotation of the train of wheels which act upon the planet and its satellite.

Second, hinging the table to the standard in combination with the graduated arc and set screw, as and for the purpose set forth.

No. 51,073.—C. R. MOREHOUSE, Cardington, Ohio.—*Churns.*—November 21, 1865.—This invention consists in constructing the dasher with angular throats extending from each side of the shaft in combination with vertical breakers. In the revolution of the shaft the cream striking the sides of the dasher and breakers and passing through the throats is agitated very quickly and the butter is made in a very short time.

Claim.—The dasher with tapering angular throats K extending from each side of the shaft when constructed as described, either separately or combined with the breakers *c* and churn, when constructed in the manner herein set forth.

No. 51,074.—JACOB H. MUMMA, Harrisburg, Penn.—*Attachment for Brooms.*—November 21, 1865.—This invention consists of certain detachable plates between which the stalks or fibres composing the broom are confined near their lower ends, so that the broom shall always have an elastic and uniform edge.

Claim.—The plates A A′ with the hooks *e e*, or their equivalents, constructed and adapted for attachment to the cord *x*, or equivalent device for securing together the stalks of the broom, all substantially as and for the purpose specified.

No. 51,075.—GEORGE C. NAPHEYS, Philadelphia, Penn.—*Apparatus for Refining Lard.*—November 21, 1865.—This invention consists of a cooler into which the lard is run in a fluid state. The cooler is provided with a rotary stirrer, and has lugs attached to the bottom to prevent the lard from being carried around the pan by the action of the stirrer.

Claim.—First, combining and arranging the agitator or stirrer B with the cooler A, substantially in the manner hereinbefore described and for the purpose specified.

Second, combining the lugs *b* with the cooler A, substantially in the manner and for the purpose above set forth.

No. 51,076.—CHARLES R. OTIS and NORTON P. OTIS, Yonkers, N. Y.—*Steam Hoisting Apparatus.*—November 21, 1865.—This invention consists in so applying the lever of the brake of a steam hoisting apparatus, steam cylinder, and piston and suitable valves, and connecting the same with the lever of the stop-valve of said steam hoisting apparatus, that

by operating the latter lever to let on or shut off the steam a reverse movement is effected in the valves of the cylinder attached to the brake.

Claim.—So applying the lever of the brake of a steam hoisting apparatus, steam cylinder and piston and suitable valves, and connecting the same with the lever of the stop-valve of said steam hoisting apparatus, that by operating the latter lever to let on or shut off steam, a reverse movement is effected in the valves of the cylinder attached to the brake, substantially as herein described.

No. 51,077.—NORTON P. OTIS, Yonkers, N. Y.—*Loose Pulley.*—November 21, 1865.—This invention consists in coring out the hub of a loose pulley, so as to form within it an annular chamber entirely surrounding the bore, and serving as a reservoir to contain lubricants; also in a certain arrangement of supply chambers and passages forming a communication between said reservoir and the bore through which the lubricant is supplied to the latter by means of some capillary material.

Claim.—The supply chambers C C, containing wick or other capillary material, and the opening or passages *c c* and *c'' c''*, in combination with the annular chamber B, the whole arranged within the hub, substantially as and for the purpose herein specified.

No. 51,078.—HENRY H. PALMER, Rockford, Ill.—*Horseshoe.*—November 21, 1865.—This shoe is so constructed as to be attached to the hoof without nails. Near and on either side of the toe are two flanges bent inwards so as to embrace the hoof, each provided near its upper end with an inwardly projecting spur. Near the heel are two other flanges, one on each side, similar in all respects to those just described except that instead of being attached directly to the shoe they spring from separate plates which lie in dovetailed recesses extending across the shoe, and are otherwise held in place by screws which pass up into them from below.

Claim.—First, the combination in the shoe of the stationary clips D, and the movable clips H on the plates F, which are fitted into the dovetail grooves extending across the upper portion of each side of the shoe, and secured therein by set screws G, substantially as described and represented.

Second, the auxiliary projection *e* on the clip H, as and for the purpose described.

No. 51,079.—C. C. PECK, Blackhawk, Col.—*Amalgamator.*—November 21, 1865.—This invention consists of a series of pans resting on spiders which are attached to a frame suspended by rods. The frame is put in motion by means of the eccentric and cranks, and the pans are caused to rock horizontally on their journals by means of a rod attached to the spiders and connected at one end with the frame.

Claim.—The arrangement of an amalgamating pan, or a series of pans, and a mechanism for agitating the same, so that in connection with a combined longitudinal and vertical or longitudinal and vibrating movement, said pan or pans shall have reciprocating lateral movement, substantially as set forth.

Also, extending the spider arms over the edge of the pan, thereby holding the pan in position and permitting its easy removal, substantially as set forth.

Also, the pins or projections *o*, extending down into one or more of the pans, substantially in the manner and for the purpose specified.

No. 51,080.—CHARLES A. PERRY, Elkhorn, Wis.—*Cigar Case.*—November 21, 1865.—This device is made of pasteboard and consists of an outer case with open ends into which the inner case, made of a strip of pasteboard, the ends of which fold over the ends of the cigars, slides. The inner strip is so creased as to form ridges between which the cigar rests. Matches can be inserted into the ends of the inner pasteboard, and a strip of sand paper is attached to its end.

Claim.—As a new article of manufacture a cigar case or box, constructed substantially as herein shown and described.

No. 51,081.—WILLIAM G. PIKE, Philadelphia, Penn.—*Variable Cut-off.*—November 21, 1865.—The object of this invention is to cut off steam at various points of the piston's stroke, the points being determined by the speed of the engine and operation of the governor mechanism upon the device claimed. Its novelty consists in the arrangement of the plug and spindle, in combination with the adjustable pivots, the rods, double arms, rods, and spring bumper.

Claim.—First, the arrangement of the plug B and the spindle E in combination with the adjustable pivots F F, the whole constructed substantially as herein set forth.

Second, the combination of the rods W, the single and double arms T T′, the rods S S′, the springs R R′, and the arm G, whereby the valve is opened twice at each revolution of the engine, substantially as shown and described.

Third, the combination of the double arm G with the spring bumper L to adjust the closing of the valve, substantially as shown and described.

No. 51,082.—WILLIAM POTTER and ABIAL W. SHELDON, Lowell, Mass.—*Machine for Dressing and Beaming Warps.*—November 21, 1865.—In this machine dressing frames are

placed on opposite sides of the centre frame and yarn beam, which are at least twice as long as the dressing frames; one of the latter is placed opposite one-half the length of the centre frame, and another opposite the other half. By this means the operator can easily reach to any part of either section of yarn, and a yarn beam of any length can be filled by employing a sufficient number of dressing frames, while the tension of all the yarns is nearly equal.

Claim.—First, the combination and arrangement of the long centre frame D D with two or more dressing frames of ordinary length, substantially as herein described and shown, and for the purpose specified.

Second, four guide rolls 8 9 10 10, or their equivalents, arranged as herein specified for the purpose set forth.

No. 51,083.—E. PINCUS and D. B. EMERICK, Philadelphia, Penn.—*Coffee Pot.*—November 21, 1865.—In this invention the bottom chamber is connected with the main boiler by a neck; into this fits a partition, from which a tube rises and extends above the main boiler and into a chamber set upon this, thus forming a connection with the bottom chamber. From the bottom of the main chamber a pipe passing outside of said neck forms a connection with the bottom chamber; the steam from heated water in the lower chamber passes up the connecting tube into the upper chamber, and falls upon the coffee on the perforated bottom of the upper chamber. Upon the top of the apparatus is a supplementary vessel for milk.

Claim.—First, the combination of the chambers B and B′, partition I, vessel E, pipe G, and tube J, or its equivalent, the whole being arranged and operating substantially as and for the purpose herein set forth.

Second, the combination described of the vessel E with the vessel F, for the purpose specified.

No. 51,084.—THOMAS H. QUICK, New York, N. Y.—*Desiccating Eggs, &c.*—November 21, 1865.—This invention consists of a metal cylinder filled with a tubular shaft, which is divided longitudinally into two equal parts. The heating medium enters one division and passes through perforations and into the cylinder, and thence into the other division, whence it escapes. The cylinder dips into the substance to be desiccated in the pan, and as the cylinder revolves the desiccated material is scraped off by a knife.

Claim.—First, in desiccating eggs and other substances, the use of a hollow revolving cylinder divided into radial divisions, heated from within, whose peripheries are coated with the egg-mass, or other substances to be desiccated, substantially as above described.

Second, the divided stationary shaft, perforated as shown, substantially as above described.

Third, in combination, perforating the inner sides of the radial divisions F of the revolving cylinder, or other body, and perforating the divisions I J of the stationary shaft around which the desiccating surfaces rotate, so that the radial divisions are alternately filled with and emptied of the heating medium, substantially as described.

Fourth, in desiccating eggs or other substances upon surfaces which are kept in motion, depriving them of the water and moisture which are to be removed, by the use of secondary heat applied within the surfaces on which the egg-mass or other substances are placed, substantially as above described.

Fifth, in desiccating eggs or other substances upon surfaces kept in continual motion, heating such surfaces by the use of hot water or steam, or other fluid, substantially as described.

No. 51,085.—LEWIS RATHBONE and WILLIAM HAILES, Albany, N. Y.—*Coal Stove.*—November 21, 1865.—This invention consists in the combination of an annular horizontal register with a suspended fire-pot, so as to admit the air below the point of suspension of the fire-pot.

Claim.—First, arranging a perforated fire-pot with a grate bottom within a circular stove, having a provision for the admission of air below the point of suspension of said fire-pot, substantially as described.

Second, the combination of an annular horizontal register with a suspended fire-pot, which has perforated sides, substantially as described.

No. 51,086.—GEORGE REHFUSS, Philadelphia, Penn.—*Sewing Machine.*—November 21, 1865; antedated November 11, 1865.—By this invention a sewing machine using an upper perforating needle and a lower thread carrier, which carries a thread over the edge of the cloth to form a button-hole stitch, may be converted into a lock-stitch machine. To effect this, the thread carrier is turned upon a pivot, out of operative action, while a swinging shuttle carrier is placed in operative action, a sliding cam on the main shaft being provided for this latter purpose; and the loop spreader above the cloth being also locked to the needle bar so as to rise and fall with it, and not to rotate as when used in button-holing. The take-up devices are also capable of adjustment to adapt them to these changes.

Claim.—First, the lever K for holding a loop of thread and carrying the same across the edge of the fabric, when the said lever is so connected to a permanent part of the machine as to be adjustable, substantially in the manner and for the purpose specified.

Second, the combination of the shuttle carrier O, the cam wheel S, and operating lever Q, the whole being constructed and arranged for adjustment substantially as and for the purpose herein set forth.

Third, the sleeve E, adapted to the needle bar and to the stationary arm B, in the manner described, in combination with the devices herein described, or their equivalent, whereby the said sleeve and its projection *h* may be put either in or out of operative action, as desired, for the purpose specified.

Fourth, the take-up motion, consisting of the adjustable pin *l* on the needle arm D, the lever G, and its arm *k*, and tension device 3, the whole being arranged and operating substantially as and for the purpose herein set forth.

No. 51,087.—WILLIAM ROWLAND, Philadelphia, Penn.—*Process of Shaping and Hardening Articles of Steel.*—November 21, 1865; antedated November 9, 1865.—This invention consists of two flat dies, one above the other, supported by and moving in a suitable frame, between which the plate, when properly heated, is placed to be hardened and straightened by bringing the dies towards each other by a gradually increasing pressure upon said plate until it becomes sufficiently cool for the purpose.

Claim.—The process of simultaneously shaping and hardening articles of steel by subjecting them, while in a heated state, to a gradually applied pressure between cold dies, as set forth.

No. 51,088.—CYRUS W. SALADEE, Newark, Ohio.—*Snap Link.*—November 21, 1865.—This invention consists in the combination of a ring with a snap link for holding a strap or chain to one end of the link, while the other end may be snapped into the bit ring of a bridle.

Claim.—The ring C, or its equivalent, in combination with the snap link A B, in the manner and for the purpose substantially as shown and described.

No. 51,089.—CYRUS W. SALADEE, Newark, Ohio.—*Snap Hook for Whiffletrees.*—November 21, 1865.—This invention consists, first, in the peculiar arrangement of the hook by which the trace is retained in place on the end of the whiffletree; second, in the peculiar arrangement of the spring by which the said hook is operated; third, in the arrangement of a plate covering said spring and protecting it from mud, &c.

Claim.—First, the snap hook A when constructed and operating in the manner and for the purpose substantially as shown and described.

Second, the spring O in combination with the hollow plate B and the snap hook A, in the manner and for the purpose substantially as shown and described.

Third, the plate B as a covering from the spring O, in such manner as to protect the latter from mud and dust, substantially as shown and described.

Fourth, the plate B, or its equivalent, when arranged in combination with the ferrule F, Fig. 3 and 4, in the manner and for the purpose substantially as shown and described.

No. 51,090.—LEVI M. SANDFORD, Clinton, Iowa, and JAMES P. BEEBE, Morris, Ill.—*Fountain Pen.*—November 21, 1865.—This invention consists of a pen the holder of which carries ink enough to last about half a day when used continually. The holder is provided with a combined lever and regulator, by the use of which the ink is made to flow into the pen, and the pen adjusted to make a mark of any desired size.

Claim.—The combination of the part or lever G, supporting the hasps *m* and the spring F, substantially as described and set forth.

No. 51,091.—THOMAS SHEDD and FREDERICK GLOCKNER, Williamsburg, N. Y.—*Child's Exercising Chair and Scale.*—November 21, 1865.—This invention consists of a child's chair, which may also be used as a baby jumper, and will serve as a scale to indicate the child's weight.

Claim.—First, the combination of the seat *g*, vertical bars *m*, spiral springs *r'*, cross-bar *n*, guides *o*, and grooved friction rollers *v*, all arranged substantially as set forth, for the purpose specified.

Second, the weighing scale combined with a child's exercising chair, substantially as herein set forth and shown.

Third, the adjustable bar *w* in combination with the chair seat, supported upon springs, substantially as set forth, for the purpose specified.

No. 51,092.—H. SMITH and D. B. WESSON, Springfield, Mass.—*Revolving Fire-arm.*—November 21, 1865.—This invention consists in the employment of two adjustable centre screws, in combination with the chambered cylinder of a revolving fire-arm, in such a manner that by removing the bearing from the end of said cylinder to the end of the adjusting screw the chambers can be placed nearer the centre of said cylinder, and the size and weight thereof can be reduced; and, furthermore, the friction while revolving is materially lessened, and, by having both the back and front screw adjustable, the position of the cylinder in relation to the rear end of the barrel can be regulated to give the proper opening between them.

Claim.—The employment of two adjusting centre screws *a b* and projection *c*, in combination with the revolving cylinder of a fire-arm, substantially in the manner and for the purpose described.

Also, removing the bearing for the rear end of the cylinder from the surface of said cylinder to the centre screw, substantially as and for the purpose set forth.

No. 51,093.—C. H. SOLLERS and JOHN RHOADS, Harrisburg, Penn.—*Shoe for Car Brakes.*—November 21, 1865.—This invention consists in so constructing brake shoes and their holders that the shoes may be reversible, and applied either to the right or left end of a brake bar, and securely held in place without a screw or bolt; also in a peculiar locking device to prevent the shoe from rising when the train is backing.

Claim.—First, so constructing a brake shoe and its holder that the shoe can be reversed at pleasure, and secured in its place without the use of bolt fastenings, substantially as described.

Second, the locking arm *d* applied to the upper end of the holder A for holding the shoe B in place, substantially as described.

Third, securing a shoe to its holder by means of dovetail fastenings and a holding down lock *d*, or its equivalent, substantially as described.

No. 51,094.—T. S. SPEAKMAN and NOAH HAND, Camden, N. J.—*Ship's Pump.*—November 21, 1865.—An examination of the drawing and specification is essential to an understanding of the combinations here claimed.

Claim.—First, the pump barrel E, with its piston G, arranged in the hold of the vessel, and operating in combination with the within described pipes and valves, or their equivalents, substantially as and for the purpose specified.

Second, the combination of the case M, tube *f*, float N, rod *g*, finger *i*, and index *s*, as arranged in relation to the foregoing.

No. 51,095.—J. G. SPITZLI, Millville, Mass.—*Loom for Weaving Embroidered Fabrics.*—November 21, 1865.—This invention relates to lappet weaving, in which threads are interwoven on the surface of the fabric during the process of weaving. The needle bars, when operated laterally by the pins on the pattern wheel, are returned by springs, other springs also returning them after being depressed towards the fabric. The adjustability of the pins in the pattern wheel, which is carried by the lay, admits of the production of different patterns in the woven goods.

Claim.—First, the pattern wheel H, composed of a series of adjustable pins *q*, in combination with a suitable mechanism for turning the same, and with oscillating spring arms, to which one or more needle bars are attached, substantially as and for the purpose specified.

Second, the combination of the pattern wheel *h*, needle bar D, and pins *a*2, all arranged and operating substantially as and for the purposes specified.

No. 51,096.—W. W. ST. JOHN, St. Louis, Mo.—*Cultivator.*—November 21, 1865.—In this invention the wheel is mounted in a forked standard, the top of which turns upon a bolt in the cross-piece of the cultivator, allowing the wheel to turn either way in guiding the ploughs. This device is combined with hanging standards for the plough beams.

Claim.—First, mounting the beam A on the wheel stand B′, the two parts being connected together by means of the bolt *a*, or its equivalent, so as to form a swivel joint, for the purpose of allowing the wheel B to be turned to either side to assist in the guidance of the ploughs F.

Second, the combination of the wheel stands B′, and frame A A′ A″, and frame C D D′, with the swinging frame E E′ and plough beams F, as and for the purpose set forth.

No. 51,097.—A. C. STONE, Steeleville, Penn.—*Horse Rake.*—November 21, 1865; ante dated November 13, 1865.—This invention consists in making the rear ends of the cleavers curved, in connection with giving said cleavers a forward motion, so as to pull the hay forward out of the curvature of the teeth.

Claim.—Constructing the cleavers of horse rakes with curved fingers, in combination with giving said fingers a forward movement by means described, for the purpose specified.

No. 51,098.—IRA C. STORY, Cincinnati, Ohio.—*Running Gear of Street Locomotives.*—November 21, 1865.—This invention consists of a vibrating platform, on which is mounted the boiler and engine. The operation is such that when the front end of the platform is depressed one of the driving friction wheels is brought in contact with the rim or tread of the driving wheel, and the car is put in motion thereby. When it is desired to reverse the car the front is raised and the rear end depressed, when the rear friction wheel is placed in contact with the driving wheel, and the front one disconnected without reversing the engine.

Claim.—First, the vibrating platform E, friction wheels O and N, and screw P, in combination with drawing wheels C, operating as above described and for the purpose set forth.

Second, in the modified form, the platform E, rollers 1, and screw 2, in combination with the driving wheels C, as above described and for the purpose set forth.

No. 51,099.—LOUIS STROBER, Jersey City, N. J.—*Ointment.*—November 21, 1865.—This invention consists of a composition of lard and fine sand. The lard is melted, and the sand after being sifted is stirred in.

Claim.—The within described ointment for piles, composed and mixed substantially as set forth.

No. 51,100.—JAMES STUFFLEBERN, Milwaukee, Wis.—*Mortising Machine.*—November 21, 1865.—The object of this machine is to cut off a part of the tenons of doors or sashes where the mortise is not made to the end of the stile; and it consists of a reciprocating chisel working into a die, thus cutting away that part of the tenon not needed; and it also consists in the means of adjusting the table, so that different widths of tenons can be cut.

Claim.—In a machine for relishing the tenons in doors and similar work, the arrangement of the reciprocating chisel D, die E, stops G G H H, and the means of adjusting the table, substantially as described.

No. 51,101.—J. H. THOMAS and P. P. MAST, Springfield, Ohio.—*Cider Mill.*—November 21, 1865.—This invention will be readily understood by reference to the claim and engraving.

Claim.—First, the roller C, provided with the flanges *c*, alternating as shown, in combination with the rollers E and F when so arranged that each shall revolve at different velocities.

Second, the adjustable concave turning on journals at the lower end, and located above the roller F, as and for the purpose set forth.

Third, the metallic side plate of the grinding case, provided with bearings for the upper roller C, as shown and described.

No. 51,102.—F. VAN PATTEN, Ilion, N. Y.—*Machine for Trimming Chain Links.*—November 21, 1865.—This invention consists in the arrangement of an anvil block with a raised die for holding the link to be trimmed. The outer and inner sides of this die are cut away, so that cutters attached to the drop, and having forms respectively of the outer and inner sides of the link, will in performing the operation of trimming pass sufficiently below the edges of the die to turn the links perfectly.

Claim.—The combination of the fixed anvil block and cutter blades *m* and *n*, arranged together and constructed substantially in the manner described and for the purpose specified.

No. 51,103.—FREDERICK VAN EGLOFFSTEIN, New York, N. Y.—*Heliographic and Photographic Spectrum for Producing Line Engravings.*—November 21, 1865.—This invention consists of a ruled surface on a plate of glass, which decomposes the light passing through it in lines or dots or dotted lines, so that when the spectrum is placed over a negative photograph the picture is printed by the decomposed light in lines or dots. This impression can be used as a type to print from or to be etched.

Claim.—The use of a spectrum for the purpose of producing line engravings from transparent photographs, substantially as herein described.

No. 51,104.—JOEL WEBSTER and JAMES G. MORGAN, Brooklyn, N. Y.—*Ore Crusher.*—November 21, 1865.—This invention consists in the employment of pneumatic springs in conjunction with reciprocating stampers and a movable bed, upon which the ore is crushed; also in the communication of an up and down motion, and at the same time of a vibratory motion, to the stampers, so as to obtain a slight rubbing action with every blow; also in an expansible packing for the piston heads of the stampers, which act against the inner surface of the cylinders with a force proportionate to the pressure exerted upon said piston heads.

Claim.—First, the application of a pneumatic spring to the stamper of an ore-crushing machine, substantially as described.

Second, connecting the pneumatic springs to the cranks which operate the stampers, and guiding the lower ends of the latter so that they will receive an up and down motion and also a vibrating motion, substantially as described.

Third, the employment of a packing for the piston of the pneumatic spring, which is constructed and applied substantially as described.

Fourth, constructing the piston of the pneumatic cylinder with concave faces and shoulders *i i*, adapted to receive an annular concavo-convex packing, substantially as described.

Fifth, securing the leather packing of the piston in their places by the raised off sets or shoulders *i i* on the piston, or rod, as described.

Sixth, the combination of the movable bed for receiving the ore to be crushed with pneumatic spring stampers, substantially as herein described.

No. 51,105.—A. D. CAMPBELL, assignor to DAVID L. PLUME, Newark, N. J.—*Scroll Saw.*—November 21, 1865.—This invention consists in applying a weight to the inverted pendulum in a scroll sawing machine propelled by foot power; and it also consists of a horizontal reciprocating guide bar, that at each reciprocation strikes against springs that arrest the movement in that direction, and assist in returning the pendulum without shock or concussion.

Claim.—First, the adjustable weight W, applied to the inverted pendulum L, to operate substantially in the manner and for the purpose as herein described.

Second, the springs P P, applied in front of and behind the inverted pendulum, to operate substantially as herein set forth.

No. 51,106.—JOHN PARDOE FERRIS, London, England.—*Lubricator for Steam Engines.*—November 21, 1865.—The object of this invention is to lubricate the valves and pistons of steam cylinders, by means of which there shall be measured out the exact quantity required. Its novelty will be readily understood by reference to the claim and engraving.

Claim.—First, the passage B E and H, for the admission of steam into the chamber A, and escape the of the oil from said chamber to the parts being lubricated, constructed and arranged substantially as described.

Second, the plug C with passage D, in combination with the steam and oil passages B E and H, arranged and operating as described.

No. 51,107.—DAVID N. B. COFFIN, Jr., Boston, Mass., assignor to self and J. D. SPAULDING, of same place.—*Power Capstan.*—November 21, 1865.—This invention consists in certain improvements in the method of gearing, and in other peculiarities of construction of that class of capstans denominated power or geared capstans, which are susceptible of operation as power or simple capstans, at pleasure.

Claim.—In combination with conical gears *h g f e*, angular shafts diverging from the axes of gear *h* and the capstan, substantially as and for the purposes set forth.

Also, the arrangement of the dogs *n m*, ring *p*, and its inclined lifters *q v*, in combination with the lugs *v t*, substantially as described.

Also, compounding the spindle *u k*, by forming the lower bearing *u* on and as part of the bed plate, and then inserting a comparatively light wrought shaft *k*, to form the upper bearings and receive the nut *l*, or a pin, substantially as described.

Also, connecting the fulcrum gear *e* to the bed plate automatically, by furnishing each with a double series of opposing inclined surfaces or lugs, substantially as and for the purposes set forth.

No. 51,108.—ROBERT E. DOWNIE, assignor to himself and LEONARD E. DOWNIE, Delevan, Wis.—*Truss.*—November 21, 1865.—This invention consists of a truss or supporter, provided with a back pad, which is hinged to a rocking bar, in combination with spring arms hinged at their rear ends to said rocking bar, and provided with pads of peculiar shape, in such a manner that by the combination of said rocking bar, back pad, and spring arms, a uniform pressure is exerted on the rupture, and at the same time the body of the patient has a free and unresisted motion in all directions or forms and in any position, without irritation from any part of the truss, and without danger of causing a displacement of the truss. The front pads are so formed as to avoid all downward pressure, and to give a more direct and upward pressure, and from a lower point than other pads in use, and also prevent the rupture from pressing out below the pad.

Claim.—First, the back pad A and rocking bar B, applied in combination with the springs C′ and pads D, substantially as and for the purpose set forth.

Second, the hinged arms C, in combination with the rocking bar B, back pad A, and springs C′, constructed and operated substantially as and for the purpose described.

No. 51,109.—CHARLES F. DUPPER, assignor to himself, JOHN BENZ, and JULIUS HACKERT, Bridgeport, Conn.—*Artificial Ivory.*—November 21, 1865.—This invention consists of a composition of bone dust, sulphuric acid, boiling water, alum, and white zinc.

Claim.—The within-described composition for artificial ivory, made of the ingredients herein specified, and mixed together in the manner and about in the proportions set forth.

No. 51,110.—HENRY FIELD, Jr., assignor to himself and NEW BEDFORD COPPER COMPANY, New Bedford, Mass.—*Sheathing for Vessels.*—November 21, 1865.—This invention consists in the use of sheets of copper, muntz metal, or other suitable alloys, in the condition in which they come from the rolls, without subjecting it to the action of the acid bath.

Claim.—The employment for sheathing purposes of sheets of copper, or copper alloys, having a coating formed by oxidation and rolling, substantially as set forth.

No. 51,111.—HENRY FISHER, assignor to C. AULTMAN & CO., Canton, Ohio.—*Rake Attachment to Harvesters.*—November 21, 1865.—This invention consists of an automatic rake, arranged upon a hinged "floating" platform, and driven by gearing on the main frame, and having a variable line of sweep so as to traverse the platform to remove the grain from the platform, and aid in forming a gavel before discharging the grain on the ground.

Claim.—In combination with a rake shank having a horizontal circular motion a rake head and rake united therewith, so that the rake head and rake, in addition to their circular motion with the shank, may have a reaching or forward and backward sliding motion, independent of the shank and independent of each other, substantially as described and represented, and for the purpose set forth.

Also, in combination with a circular and reaching rake, a palm or compressor, which is swung out to aid in gathering the gavel into a compact form before it is delivered upon the ground, substantially as described.

Also, in combination with the angular arm O for operating the rake, the lowering or recessing of the rear portion of the platform, so that the arm may turn freely and allow the rake to work close to the platform, as described.

No. 51,112.—SAMUEL E. FOSTER, assignor to the PUTNAM MACHINE COMPANY, Fitchburg, Massachusetts.—*Lubricator for Steam Engines.*—November 21, 1865.—The object of this invention is to graduate the quantity of oil to the required amount for lubricating the parts, and to do this with accuracy so as to avoid waste. The novelty consists in the arrangement of a cylinder with the piston, and packing operated by a screw.

Claim.—The within-described oil feed apparatus, consisting of the cylinder, with its piston D, and packing, operated by the screw C, substantially as set forth.

No. 51,113.—ANSON HATCH, New Haven, Conn., assignor to himself and WILFRED H. NETTLETON, Bristol, Conn.—*Drilling Machine.*—November 21, 1865.—This invention consists in the general combination of all the parts, forming a drilling machine, conveniently arranged so as to be readily attached to any bench without labor in setting up, &c.

Claim.—The upper puppet head F and its appendages, in combination with the lower puppet head G and its appendages, when they are constructed and arranged and made to operate substantially as herein described.

Also, the upper puppet head F, in combination with the rear part A B and upright C, when the whole is constructed, combined, and fitted to be attached to the bench, substantially as herein described.

No. 51,114.—JESSE LA BAR, Slatington, Penn., assignor to himself and ROBERT MCDOWELL, of same place.—*School Slates.*—November 21, 1865.—This invention consists of certain grooves and holes made in the corners of a slate frame, for the reception of wire fastenings, by which the corners of the frame are secured, without presenting any unsightly or inconvenient projections.

Claim.—The groove *x* and holes *m* and *m'*, communicating with said groove, the whole being made in the corner of a slate frame, for the reception of the wire fastening *n*, as and for the purpose herein set forth.

No. 51,115.—ISAAC W. LAMB, assignor to himself and ALVAH STRONG, Rochester, N. Y.—*Knitting-machine Needle.*—November 21, 1865.—The object of this invention is to protect the latch or loop caster, and also to permit it to be operated by simply being drawn under the bevelled-edged plate that confines the needle in its groove, the hook being closed at a given point in the backward movement of the needle, and the old loop opening the hook at or near the same point of its forward movement.

Claim.—First, a latch or caster, swinging within a slot in a knitting-machine needle, and having no longitudinal movement on its pin, when the extreme front point of such caster is always either within or under the slot in the needle, substantially as and for the purpose herein described.

Second, the combination of a hooked needle with a hinged caster, in such a manner that the point of the caster will be covered in the slot of the needle at the same time that the point of the hook is covered by the caster, substantially as and for the purpose herein set forth.

Third, in combination with a hinged caster that covers the point of the hook by rising up against the under side of the same, making such hook flexible, for the purpose herein explained.

Fourth, extending the rear end of a hinged caster back of its pin, so as to permit of applying a suitable device back of such pin, to operate the caster when such hinged caster is combined with a hooked needle, in the manner specified in clause second of this claim.

No. 51,116.—ROBERT LEGGETT and ROBERT GITTUS, Mildenhall, England, assignors to A. B. CHILDS, Rochester, N. Y.—*Straw Cutter.*—November 21, 1865.—This invention consists in a machine for cutting straw or other similar products, in which the knives are attached to a rotary wheel and hung upon pivots, and they are governed by an eccentric disk in such a manner that the cutting edges preserve the most favorable position towards the material to be cut. The invention also consists in a compound pressure-plate, consisting of a semicircular self-adjusting cap and vertically sliding weight.

Claim.—First, the combination of the eccentric disk E', or its equivalent, with the pivoted knives E and guide slots *c*, all arranged and operating substantially as and for the purpose shown and described.

Second, the compound pressure-plate G, consisting of the vertically sliding weight *f* and semicircular cap *g*, in combination with the feed rollers F, or their equivalents, constructed and operating in the manner and for the purpose substantially as specified.

No. 51,117.—WILLIAM MASON, assignor to E. REMINGTON & SONS, Ilion, N. Y.—*Revolving Fire-arms.*—November 21, 1865.—In this invention the cylinder is mounted on a hinged portion of the frame, which, with the base-pin, swings to one side, thus leaving the rear end of the cylinder entirely exposed for the action of a sliding cartridge retractor operated by the base pin or centre pin. The barrel is attached to the frame, which is solid or continuous around the cylinder, notwithstanding the hinged portion, which is separated from it laterally.

Claim.—So combining the base pin, support, and cylinder as that they may be swung out of line with the centre of the barrel and frame, far enough to load the cylinder at the rear and eject the empty cartridge cases, substantially as described

Also, in combination, the internal concentric groove near the fore end of the cylinder, the external concentric groove, and the eccentric head on the swinging support, said grooves and head being fitted and held in proper position by the base pin, substantially in the manner and for the purpose set forth.

Also, the short endwise movement of the base pin, in combination with the revolving cylinder, and the spring for the purpose of fastening and releasing the cylinder, in and out of the central line barrel and frame, substantially as described.

Also, in combination with the base pin, having an endwise motion in connection with a spring, the bevelled end thereof and the inclined recess or plane in the frame, for allowing the base pin to yield while entering the frame, and shooting into its catch when in place, substantially as described.

Also, the stud on the barrel, in combination with the notch and groove in the base pin, for forming a locking and unlocking mechanism for said base pin, substantially as described and represented.

Also, a non-rotating base pin, in combination with the rotating ejector and cylinder, substantially as herein described.

No. 51,118.—WILLIAM W. NICHOLS, assignor to himself and DANIEL PRICE, Lockport, N. Y.—*Paint Oil.*—November 21, 1865.—This invention consists of petroleum, forty gallons; refined rosin, one hundred to one hundred and twenty pounds; refined tallow or lard, twenty pounds; and linseed oil, five gallons.

Claim —A compound or vehicle for painting, composed of the ingredients herein set forth, combined substantially in the manner and proportions described.

No. 51,119.—WILLIAM NYCE, assignor to GEORGE NYCE, Three Rivers, Mich.—*Soap.*—November 21, 1865.—This invention consists of a composition of nitrate of potash, one ounce; aqua ammonia, one ounce; alkanet root, one ounce; alcohol, half pint; oil of sassafras, twenty drops; oil citronella, one drachm; benzine, two ounces; castile soap, three pounds; common bar-soap, five pounds; and soft water, three and a half quarts.

Claim.—The combination of the above-mentioned materials, in the proportions and manner herein described, for the manufacture of an erasive and medicated soap, for the uses and purposes herein named.

No. 51,120.—IRA B. QUINBY, East Boston, Mass.—*Fish Decoy.*—November 21, 1865.—This invention is too complicated to be briefly described.

Claim.—The combination of the float A, the glass vessel E, and the lamp arranged within the said vessel.

Also, the combination of the socket or cap C′ and the series of rods D D, or the equivalents thereof, with the float A, the glass vessel E, and the lamp placed or suspended therein.

Also, the combination of the cap I, and the air tubes H H, with the lamp F and the glass vessel E.

Also, the combination of the cap I, and the air tubes H H, with the lamp F, the glass vessel E, and the float A, for supporting such vessel.

Also, the combination of one or more shields M M, with the air tubes H H, the lamp F, and the glass vessel E.

Also, the combination of the ventilator K, and its guard L, with the cap tube I, the glass vessel E, and the lamp suspended therein.

Also, the combination of the conical guard K, and the air opening or openings *i*, with the cap I, the glass vessel E, and the lamp F, arranged in such vessel.

No. 51,121.—JAMES STRATTON, assignor to himself and JOHN HINSHELLWOOD, Philadelphia, Penn.—*Gas Burner.*—November 21, 1865.—This invention consists in a device to adjust the amount of gas consumed so that it cannot be varied without another permanent adjustment.

Claim.—An adjustable gas burner, consisting of the tapered interior perforated cap C, and the tapered interior perforated tube *a′*, operating together as described, and enclosed within the external burner cap B, screwed permanently down upon the base A, as and for the purpose described.

No. 51,122.—JAMES TORRANCE, assignor to himself and JOHN GEORGE, Jr., Irwin Station, Penn.—*Rotary Steam Engine.*—November 21, 1865.—This invention consists in pro-

viding an arm for connecting the piston to the piston wheel, which arm is provided with bearings to support the journals of the piston, which is so arranged as to rotate freely in such bearing during its revolution around the cylinder. It also consists in providing and arranging within a hollow shaft a hollow valve for controlling the admission of steam to the engine, and for reversing its motion.

Claim.—First, connecting the piston of a rotary engine to the piston wheel, by means of a pivot, and allowing the same to rotate freely round its own axis, substantially as and for the purpose described.

Second, the steam valve *i*, fitted into a socket in the main shaft and combined with the steam pipe *g*, and ports *j j' q q'*, substantially as and for the purpose specified.

Third, the arrangement of the revolving valve *i*, situated in the interior of the main shaft D, piston *c*, cylinder C, cams *m*, and abutments K K', all constructed and operating substantially as and for the purpose set forth.

No. 51,123.—THOMAS LATHAM BOOTE and RICHARD BOOTE, Burslem, England.—*Manufacture of Pottery and such-like Wares.*—November 21, 1865; patented in England, November 10, 1864.—This invention consists in making plates, dishes, bowls, and other similar articles of pulverized clay, or such-like material, in a dry or partially dry state. To carry out this invention a metal mould, made in two parts, is employed; the lower part of the mould is filled with the pulverized clay; a part of the clay is then removed, leaving that which remains to correspond as nearly as possible with the inner side of the article. The upper part of the mould is then placed upon the lower part containing the clay, and after subjecting the whole to pressure the article may be removed.

Claim.—As an improvement in the manufacture of pottery and such-like wares, arranging the clay or other material employed in or on the moulds in such manner that, in making articles of a concave and convex form, each part may receive an equal amount of pressure, substantially as hereinbefore described.

No. 51,124.—L. P. R. DE MASSY, Paris, France.—*Filtering Press.*—November 21, 1865.—This invention consists of two circular casings, secured together at the top and bottom by circular plates. The annular space between the two casings contains a flexible casing of caoutchouc or similar material. The material to be pressed is forced into the space between the two first casings through a pipe. Water is then forced into the interior of one of the circular casings, forcing the flexible casing outwards towards the other circular casing; a suitable vessel receives the filtered material.

Claim.—First, the combination of a perforated casing B, when used for the compression and filtration of substances contained in the space between the two casings, by the application of fluids under pressure to the flexible casing, substantially as described.

Second, in combination with the above, the cylinder D, its piston E, and the inlet and outlet pipes, with their cocks and gate, or the equivalent to the same.

Third, the combination of the cylinder G, its piston H, and inlet and outlet pipes, and the cocks or their equivalent, with the outer perforated casing A, and inner flexible casing B.

No. 51,125.—LOUIS LILLIE, Troy, N. Y.—*Moulds for Casting Metal Safes, Vaults, and Similar Substances.*—November 21, 1865.—This invention will be understood from the claim and engraving.

Claim.—First, the employment and combination of the pyramidical or central core *c*, with the surrounding moulds E, each constructed and arranged in the manner substantially as and for the purposes herein described and set forth.

Second, the arrangement of the means herein described or any equivalent thereof, by means of which the said pyramidical or central core is permitted to drop, in the manner and for the purposes as herein described and set forth.

Third, the employment of the surrounding moulds B and E, in combination with the vertical wedge-shaped keys *a*, or any equivalents therefor, arranged and operated in the manner substantially as and for the purposes herein described and set forth.

Fourth, the combination of the horizontal wedge-shaped keys or slides *f*, with the vertical wedges or keys *a*, each being arranged and operated in the manner and for the purposes substantially as herein described and set forth.

Fifth, the mode herein described for making safes and vaults of wrought and cast iron or semi or cast steel in iron or metallic moulds, substantially as herein described and set forth.

No. 51,126.—EMANUEL ANDREWS, Williamsport, Pa.—*Saw-mill.*—November 28, 1865.—This invention consists in hanging reciprocating saws, by means of a main plate, with a dovetail mortise on the edge next the saw. A plate is riveted on one side with projecting pins corresponding in length to the thickness of the same plate; into the mortise and against the side plate is placed the saw, which has a dovetail-shaped tenon on the end to fit the mortise, and holes to receive the pins, when two buttons pivoted to the other side of the plate are turned down over the saw plate, which hold it firmly in its place.

Claim.—First, the construction and use of the plates E E', adapted to be readily connected and disconnected with the saw, substantially in the manner and for the purposes herein set forth.

Second, the dovetailed ends *a' a2* on the saw *a*, adapted for use in combination with detachable plates E, or their equivalents, and the buttons D, or equivalent stops, arranged substantially in the manner and for the purposes herein set forth.

Third, the projecting ends F F, projecting beyond the cleats at the top or bottom of saws, or their attachments, so arranged as to allow any suitable gauge rods to be applied on the ends, substantially as herein described and for the purposes set forth.

No. 51,127.—JEROME and GILBERT BACON, Medina, Wis.—*Broom.*—November 28, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The broom, constructed as described, as a new article of manufacture, that is to say, with the splints or broom corn secured in the conical sheath or cap by glue around their buts, among which the pointed end of the handle is driven, securing, by the aid of the glue and the fastening *a*, all the portions in their relative positions.

No. 51,128.—DANA BICKFORD, Boston, Mass.—*Apparatus for Carburetting Air.*—November 28, 1865.—This invention consists of a vessel, within which is a bell or cup attached to a stem or tube, which passes through a stuffing-box; on the lower end of the tube is a valve. Through the upper part of the bell are one or more holes, provided with a valve arranged on the top of the bell and opening upward. A conduit leads out of the upper part of the vessel.

Claim.—An improved air-forcing apparatus, as composed not only of the close vessel A, provided with a cover G and a stuffing-box *d*, but of the bell-shaped vessel or cup *c'*, its tube D, and valves E and F, arranged in manner and so as to operate as specified.

No. 51,129.—DANA BICKFORD, Boston, Mass.—*Hydraulic Elevator.*—November 28, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The cylinders A, the frame *b*, the rods *a*, the platform E, the valve chest E', and guides *c*, or their equivalents, all arranged and operated as and for the purposes described and set forth in the foregoing description.

No. 51,130.—EDMUND BIGELOW, Springfield, Mass.—*Apparatus for Cooling Soda-water, &c.*—November 28, 1865.—This invention consists of a series of vessels, connected together by pipes and air passages. Near the bottom of one of the vessels is a pipe provided with a cock, said pipe being connected with the fountain when the apparatus is to be used. It is also provided with a draught tube and escape cock.

Claim.—The vertical cooling vessels A A A, connected by pipes C C near their upper ends, and by air pipes D D at top, in the described combination with the supply cock B, escape cock G, and the draught tube E, extending nearly to the bottom of one of the cooling vessels, the whole being arranged substantially as herein described, so as to operate in the manner set forth.

No. 51,131.—CHARLES D. BLINN, Port Huron, Wis.—*Venetian Blind for Windows.*—November 28, 1865.—This invention consists in the method of reeving the cord that supports and connects the several slats to each other, and also in the manner of operating the blind both in raising and opening and closing the slats.

Claim.—First, connecting the slats to each other by means of cords L rove through them and fastened below each slat by means of knotting said cords, substantially as above shown and described.

Second, in combination the cords L, rove through the blinds and connected to them as shown, and the cords D D J I, applied substantially as shown.

No. 51,132.—WILLIAM BRAMHILL, New York, N. Y.—*Chair Bottom and Back.*—November 28, 1865.—This invention consists in the employment of soft vulcanized sheet India-rubber, or India-rubber cloth, in the bottoms and backs of chairs, and other seats and articles of furniture for sitting and recumbent purposes.

Claim.—The employment of perforated elastic vulcanized India-rubber, or India-rubber cloth, substantially as herein described, in the bottoms and backs of chairs and other articles of furniture for sitting and recumbent purposes.

No. 51,133.—LEVI BRONSON, Buffalo, N. Y.—*Tool for Squaring the Ends of Shafting.*—November 28, 1865.—This invention consists in the combination and arrangement of the tool stock, drill, cutter, and dog, forming a tool for squaring the ends of shafting.

Claim.—In combination with the tool stock described, the dog C, the cutter F, and drill B, all for the purposes substantially as herein set forth.

No. 51,134.—W. H. BROWN.—Worcester, Mass.—*Friction Clutch.*—November 28, 1865.—This invention consists in a method of operating two clutched pulleys with a single shipper, and is limited entirely to the device for doing the same.

Claim.—First, the combination of the detached elastic segments with the wedge blocks, substantially as and for the purpose described.

Second, making the wedges which force the segments against the rim of the pulley the medium of coupling it with the core.

Third, the combination of the sleeve E, the links and toggle joints with their terminal wedges, and the expanding segments or ring, substantially as described.

Fourth, the combination of the links I I with the toggles J J, substantially as and for the purpose described.

No. 51,135.—PETER BUDENBACK, New York, N. Y.—*Locomotive Head Lamp.*—November 28, 1865.—This invention consists in the employment of a double conical foraminous cage, surrounding the mouth of a supply pipe of a locomotive head lamp; also, of a plurality of rings, attached by arms to the button rod and sliding within the draught tube.

Claim.—First, the described arrangement of the double conical, foraminous cage, or guard *f*, surrounding the mouth of the supply tube *e*, in the described relation to the reservoir and burner, for the purpose specified.

Second, the plurality of supporting rings *k k*, attached by arms to the button rod *j*, and disconnected from the draught tube, when combined and arranged in relation to the various parts of the lamp burner in the manner and for the purposes set forth.

No. 51,136.—JAMES H. BUMP, Unadilla, N. Y.—*Tube and Pump for Wells.*—November 28, 1865.—This invention consists in enclosing a cylinder or pump barrel, having a conical, perforated end, within the well tubing, and connecting the two by means of a contraction in the outer pipe.

Claim.—First, in wells which are made by driving the ends of tubes into the ground, enclosing a cylinder or pump barrel having a conical, perforated end, within an outer tube driven or placed in the ground, and connecting them by a water-tight joint, by means of a contraction in the outer pipe, substantially as shown.

Second, making a flange or its equivalent on the inside of the pump barrel or cylinder, so that the cylinder can be removed by the jar of the piston against it, substantially as described.

No. 51,137.—EDWIN BURGESS, Racine, Wis.—*Suspenders.*—November 28, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—Suspenders having a yoke and vertical and inclined parts, united by a single buckle, all substantially as described.

No. 51,138.—JAMES BURNES, Titusville, Penn.—*Drill and Reamer for Oil or other Wells.*—November 28, 1865.—The object of this invention is to produce a drill which shall bore a round hole, as well by reason of the position of its cutting edges in relation to each other, as by reason of the reamer which constitutes a part of the tool.

Claim.—First, in drills for boring oil and other wells, placing one cutting edge across the drill, but on one side of its diameter, and another cutting edge on a radial line, at a right angle or other angle to the other cutter, substantially as shown, the last mentioned cutter being equal in length to the radius of the bore.

Second, in combination with cutting surfaces arranged as stated in the first clause of the claim, the reamer D, constructed and arranged on the drill substantially as described.

No. 51,139.—MARCUS L. BYRN, New York, N. Y.—*Coal Scuttle.*—November 28, 1865.—This invention consists of a wooden vessel made with the sides and bottom of separate pieces, the front part being so formed as to make a shute, and bound together by metallic straps, and provided with a bail.

Claim.—As a new article of manufacture the scuttle for coal, &c., formed in the manner specified.

No. 51,140.—THOMAS BYRNE, New York, N. Y.—*Cotton Bale Raft.*—November 28, 1865.—This invention is described by the claim.

Claim.—The mode substantially as herein described of rafting cotton bales and other baled or bundled merchandise, of a buoyant character, upon rivers, the said mode comprising a frame or platform for a series of bales or bundles, and a water-proof covering applied under the bottom, around the sides and ends, and partly or wholly over the top of the raft of bales or bundles as described and represented.

No. 51,141.—CHARLES W. CAHOON, Portland, Me.—*Bottle.*—November 28, 1865.—This invention consists of a block of wood bored out and coated on the inside with asphaltum, shellac, or other insoluble varnish.

Claim.—A bottle consisting of a hollow block of wood, and fitted with a stopper rendered impermeable to liquids, by either of the substances specified, or their equivalents.

No. 51,142.—CHARLES W. CAHOON, Portland, Me.—*Bottle.*—November 28, 1865.—This invention consists of a bottle formed by boring nearly through a block of wood, and saturating it with a suitable liquid. The bored end of said block is stopped with a plug, through which hole smaller in diameter than the bore of the block is made.

Claim.—An impermeable wooden bottle having a plug, substantially as described.

Also, the said bottle, having a channel substantially as described.

Also, an impermeable wooden bottle, having covers substantially as described.

No. 51,143.—LUTHER W. CAMPBELL, Aurora, Ill.—*Coal Stove.*—November 28, 1865.—In this invention there are vertical chambers of small diameter in the lining, extending from a point a little above the grate to the top of the fire, and communicating with the fire chamber by a narrow opening extending their whole length. In the casing of the fire pot at the top and bottom are apertures communicating with the above-named chambers. The grate is somewhat conical in form.

Claim.—The fire box for a stove, containing the flues *n*, cap W, and parts M, as set forth.

No. 51,144.—CHARLES T. F. CHESTER, Hackensack township, N. J.—*Connector for Carbon Batteries.*—November 28, 1865.—This invention consists in the employment of a platina-faced button, flat on the face and concave on the back, being pressed into contact with the carbon plate by a clamp screw. The platina is "spun" on to the face of the button, and the concavity on the back is to receive and centre the point of the set screw, so as to secure a firm and even bearing of the platina face on the carbon surface.

Claim.—First, attaching the platina on the plate, button, or connecting surface, by spinning the platina on and over the edge of the plate or button, as set forth.

Second, the application of a centring hole on the opposite side of the plate or button, that the binding screw may always find the centre and bring the platina surface firmly in contact with the carbon plate, or its equivalent.

No. 51,145.—JOHN CHRISTMAN, Syracuse, N. Y.—*Pump Filter.*—November 28, 1865.—This invention consists of a filter for water wells, composed of sections of any kind of common wire, arranged in a tubular form, forming an open grate. The ends of the wire sections are welded together and form a drill. The invention relates to that class of wells formed by driving a tube into the earth and allowing it to remain.

Claim.—A pump filter composed of the parts A B and C, substantially as and for the purposes described.

No. 51,146.—JOHN F. CLARK, Baltimore, Md.—*Suspender Pocket.*—November 28, 1865.—This invention consists of a pocket, arranged for attachment to the suspenders upon a flap adapted to protect the same.

Claim.—The addition to the common suspenders of a guard or cover for the front straps thereof, in the manner and for the purposes substantially as set forth.

Also, attaching a guard to suspenders having a pocket for a watch or money, substantially as set forth.

No. 51,147.—AMBROSE B. COLEMAN, Lyndonville, N. Y.—*Neck Yoke.*—November 28, 1865.—This invention consists of a neck yoke for a span of horses, intended to do away with all other horse harness except collars, lines, head stalls, and one trace to be attached to the perpendicular lever of the yoke between the horses.

Claim.—The whole of the draught neck yoke, as herein described in this specification and description, in the manner substantially as and for the purposes set forth.

No. 51,148.—JOHN J. G. COLLINS, Philadelphia, Penn.—*Deep Well Pump.*—November 28, 1865.—In this invention a hollow rod in a lift pump affords an escape for the gas, which it receives from the ascending oil and from the well outside the pump cylinder through lateral ports provided for the purpose.

Claim.—In combination with a hollow pump rod for operating valves of plungers for raising oil, as herein represented, the opening from the exterior of the pump tube to said hollow pump rod and through it to the exterior of the pump for the purpose of also, by the same operation, pumping out the gas from the well, substantially as described.

No. 51,149.—CYRUS B. CROSBY, Cortlandville, N. Y.—*Clothes Rack.*—November 28, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The arrangement of the staff *a*, the sockets and balls *b*, with projections *c*, the arms *d*, and bars *f*, operating substantially as and for the purpose specified.

No. 51,150.—C. O. CROSBY, New Haven, Conn.—*Machine for making Needles.*—November 28, 1865.—In this machine the blank is cut off and presented first at one end and then the other, to a series of dies, punches, and milling rolls, which perform all the various operations necessary to complete the needle. The mechanism is too complicated to be briefly described

Claim.—First, the combination of the feeding device D with the carrier H, constructed to receive the wires, substantially as described, and having an intermittent progressive move ment, as and for the purpose specified.

Second, the carrier H, having an intermittent progressive movement, in combination with flattening dies A, substantially as and for the purpose specified.

Third, the carrier H, having an intermittent progressive movement, in combination with growing dies A^2, substantially as and for the purpose specified.

Fourth, the carrier H, having an intermittent progressive movement, in combination with counter-sinking dies A^3, substantially as and for the purpose specified.

Fifth, the carrier H, having an intermittent progressive movement, in combination with eye-punching dies A^4, substantially as and for the purpose specified.

Sixth, the carrier H, having an intermittent progressive movement, in combination with the trimming dies A^5, substantially as and for the purpose specified.

Seventh, the carrier H, having an intermittent progressive movement, in combination with the flattening and grooving dies A^1 and A^2, substantially as and for the purpose specified.

Eighth, the carrier H, having an intermittent progressive movement, in combination with flattening, grooving, counter-sinking, and eye-punching dies A^1 A^2 A^3, substantially as and for the purpose specified.

Ninth, the carrier H, having an intermittent progressive movement, in combination with flattening, grooving, counter-sinking, and eye-punching dies A^1 A^2 A^3 A^4, substantially as and for the purpose specified.

Tenth, the carrier H, having an intermittent progressive movement, in combination with flattening, grooving, counter-sinking, eye-punching, and trimming dies A^1 A^2 A^3 A^4 A^5, substantially as and for the purpose specified.

Eleventh, the carrier H, having an intermittent progressive movement, in combination with grooving, counter-sinking, eye-punching, and trimming dies A^2 A^3 A^4 A^5, substantially as and for the purpose specified.

Twelfth, the carrier H, having an intermittent progressive movement, in combination with counter-sinking, eye-punching, and trimming dies A^3 A^4 A^5, substantially as and for the purpose specified.

Thirteenth, the carrier H, having an intermittent progressive movement, in combination with eye-punching and trimming dies A^4 A^5, substantially as and for the purpose specified.

Fourteenth, the carrier H, having an intermittent progressive movement, in combination with one or more finishing mills *m m n n*, buffs or burnishing mills, or their equivalents, as and for the purpose specified.

Fifteenth, the carrier H, having an intermittent progressive movement, in combination with a carrier H′, provided with revolving spindles *p′*, and having an intermittent progressive movement, substantially as and for the purpose specified.

Sixteenth, the combination of the cone P^3, or its equivalents, with the spindles P^1, substantially as and for the purpose specified.

Seventeenth, the combination of the cone P^3 with the carrier H, provided with revolving spindles and having an intermittent progressive movement, substantially as and for the purpose specified.

Eighteenth, the direct combination of revolving spindles P′ with one or more intermittent hammers T^3, and one or more grinding, filing, polishing, or burnishing wheels, arranged substantially as and for the purpose specified.

Nineteenth, the improved organized automatic or self-acting machine, constructed substantially as herein described, so as to feed and present the wire to the several instruments for their action, and discharge the needles completely formed.

No. 51,151.—EDMUND DAY, West Springfield, Mass.—*Bridle Bit.*—November 28, 1865.—This invention consists of a bridle bit composed of metal, and covered with hard vulcanized gum.

Claim.—As a new article of manufacture, a bridle bit composed of metal covered with hard vulcanized gum, substantially as herein described.

No. 51,152.—ALONZO E. DEITZ, Brooklyn, N. Y.—*Lock.*—November 28, 1865.—This invention consists of two series of pins arranged respectively within two chambered cylinders, which abut one against the other, and are held in place by an outer surrounding tube, upon the inner end of which is a projecting stub for operating the lock bolt. The inner series of pins rest upon spiral springs, and between them and the outer series there are interposed two perforated plates which are attached to the chambered cylinders, and the perforations of which must be made to coincide in order to operate the bolt. Another peculiarity consists in making the outer ends of the outer series of pins of much less diameter than the main body, and so that the axis of the reduced portion will be eccentric to that of the body of the pin.

Claim.—First, the combination of the separate tubes C E and G, the separate sets of pins or tumblers D D and F F, and the eccentric pins *i i*, all arranged and operating substantially as and for the purposes set forth.

Second, the plates *g g*, at the inner ends of the tubes C E, in connection with the grooves *h*, made circumferentially in the pins D F, substantially as and for the purpose specified.

Third, having the outer part of the pins F diminished or reduced in diameter and eccentric with the main portions, substantially as and for the purpose set forth.

No. 51,153.—JAMES DEMPSEY, Richmond, Ind.—*Splint Plane.*—November 28, 1865.—This invention consists in forming the cutting bit in such a manner that its lower or cutting end will be nearly horizontal with the face of the plane, at right angles with the same, and having a slot cut through it above the angle; a spring being placed therein to give direction to the splint in passing through said slot into the groove after being cut.

Claim.—First, constructing bit C of a splint plane with the slot and spring, substantially as described.

Second, the arrangement of the spring D, clamps E, wedge M, stock A B, with the bit C, all of them combined substantially as and for the purpose specified.

No. 51,154.—WILLIAM DONY, Honesdale, Penn.—*Ointment.*—November 28, 1865.—This invention consists of a composition of white wax, yellow wax, spermaceti, neat's-foot oil, sweet oil, and red precipitate.

Claim.—The within described composition for ointment, made of the ingredients above specified, and mixed in about the proportion and substantially in the manner set forth.

No. 51,155.—FRANCIS E. DRAKE, Chicopee, Mass.—*Skate.*—November 28, 1865.—This invention consists in forming the runner of a narrow rib which is grooved to receive a thin web on which the foot piece is supported, the web and runner being united together by shrinking the latter on the former, or by soldering, or otherwise.

Claim.—Inserting a web in a groove in the runner of a skate and fastening them together, substantially in the manner and for the purpose described.

No. 51,156.—ARISTIDE DUBREUIEL, Baltimore, Md.—*Process for Distilling Petroleum.*—November 28, 1865.—This invention relates to an improvement upon the patent granted to the same party, dated June 20, 1865, and it consists in using, in place of the water in the boiler inside the retort or still, heavy petroleum, tar, grease, mineral or vegetable oils, metals fusible at a low temperature, or any other substance that will be converted into vapor at a higher degree of temperature than water.

Claim.—The use of heavy petroleum, tar of petroleum, mineral or vegetable oils, grease, metals easily fusible, or any other substance within the boiler inside the retort or still to vaporize the material known as petroleum or rock oil, substantially in the manner and for the purposes hereinbefore shown and described.

No. 51,157.—HENRY DUNHAM, JR., Abington, Mass.—*Sewing Machine.*—November 28, 1865.—The object of this invention is to avoid the liability of the goods to become stretched and puckered, whereby the hole punctured by the awl may be drawn out of its true position for the needle to enter it.

Claim.—The combination of the awl, needle, feeder, and a presser, having its foot so constructed and applied as to be capable of operating with forward and backward motions in the direction of the movement of the leather or material while in the act of being sewed, the whole being substantially as described and represented.

No. 51,158.—LUCIUS H. DWELLEY, Dorchester, Mass.—*Air Brake for Cars.*—November 28, 1865.—In this invention air is forced into a receiver by means of a suitable pump, which is connected at the desired time to the wheels or axles of the car, and this compressed air soon retards the wheels. The pump being reversed, the expansion of the air in the receiver serves to assist in starting the car.

Claim.—Saving the power employed in stopping or checking the motion of a car or other vehicle, and employing the same in starting.

Also, forcing air into a receiver by a suitable pump or air engine, operated by the wheels or axle of a car or other vehicle, the compressed air acting through suitable mechanism as a brake on the wheels.

Also, compressing air in a suitable receiver during the operation of stopping or checking the motion of a car or other vehicle, and utilizing the expansive power of the air for the purpose of starting or driving it.

Also, as an improvement in atmospheric brakes for railway cars and other vehicles, an air engine or pump operated by the wheels or axle of a car or other vehicle, in combination with an air receiver, substantially as set forth.

No. 51,159.—HULDAH ECKERT, Lodi, Wis.—*Manufacture of Vinegar.*—November 28, 1865.—This invention consists in the use of water in which potatoes have been boiled, in combination with sugar or molasses, for the manufacture of vinegar.

Claim.—Converting water in which potatoes have been boiled into vinegar, substantially as described.

No. 51,160.—ALBERT W. EDWARDS, Mendota, Ill.—*Ice Cream Freezer.*—November 28, 1865.—This invention consists of two vertical sets of rotary beaters; the beaters in one set extending from the spindle outward, and those from the other form a vertical arm near the inner surface of the cream cylinder inwards, each set rotating in a space distinct from the other, and being so inclined with respect to each other that the outer set shall produce a downward current of the cream, and the inner set an upward current.

Claim.—The combination of a cream holder rotating in one direction with two sets of beaters rotating therein in the opposite direction, when the beaters are so disposed that one set creates a central upward current, and the other outer downward currents, substantially as set forth.

Also, in combination with a rotating cream holder, a rotating scraper having a movement in the same direction with the cream holder, but at a different speed.

No. 51,161.—CHARLES A. ENSIGN, Naugatuck, Conn.—*Mode of making Binding for India-rubber Fabrics.*—November 28, 1865.—This invention consists of a metallic plate having a groove formed lengthwise near the centre of the upper side. The rubber cloth is placed over the metallic plate and a cord placed on it, secured at each end of the plate by means of clasps. The cord is then pressed down upon the rubber by means of a roller, forcing the rubber into the groove; the edge of the cloth is then turned over upon the cord and pressed down by the said roller.

Claim.—The employment of the groove plate *b*, substantially as described and for the purpose set forth.

Also, the employment of the roller *f*, or its equivalent, in combination with the plate *b*, substantially as and for the purpose described.

No. 51,162.—CHARLES D. EVERETT, Cleveland, Ohio.—*Method of Delivering Mails and Packages from Railroad Cars while in Motion.*—November 28, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, delivering mail bags, packages, &c., from railroad cars when in motion, automatically, substantially as set forth.

Second, the adjustable lever hook D D′, hanger C, and arm A, or their equivalents, when arranged and operating substantially as and for the purpose specified.

No. 51,163.—G. C. FANCKBONER, Schoolcraft, Mich.—*Harvester.*—November 28, 1865.—This invention consists in an arrangement of devices for operating a rod or dropper, which is raised and held in a suitable relation to the cutting apparatus, to receive and hold up the heads of the falling stalks until a sufficient quantity of grain has accumulated to form a gavel, when it is depressed into a position immediately behind the finger bar in such manner as to drop the gavel upon the ground behind it.

Claim.—The herein described combination and arrangement of the bar C, arms D D′, bar F, and standard G, for joint operation, as and for the purpose herein described.

No. 51,164.—SAMUEL S. FITCH, New York, N. Y.—*Apparatus for Cooking, Washing, &c.*—November 28, 1865.—This invention consists in the combination with a steam-tight boiler of cans therein for containing food or other matter under treatment for cooking, or similar domestic purposes.

Claim.—The combination with the steam-tight boiler B of the can or cans C therein, for containing the food or other matter under treatment, substantially as and for the purpose described.

No. 51,165.—MATTHEW FLETCHER, Louisville, Ky.—*Rotary Steam Engine.*—November 28, 1865.—This machine has a concentric and an eccentric motion, as the drum shaft is not in the middle of the cylinder, and consequently the outside flyers in one part of their motion are nearer together than those at another. This difficulty is obviated by their motion of the flyers in the joints where they work, which causes their internal parts to lie on different portions of bevelled pieces of steel, whereby the flyers are always kept in the radius of the cylinder.

Claim.—First, the double cylinders described.

Second, the internal cylinder, so arranged with reference to the flyers or pistons as to have a rotary motion nearly corresponding with those, and so as to rotate within the outer cylinder, substantially as shown and described.

Third, the hollow rings or chambers placed within the cylinder heads, for the purpose of equalizing the pressure on the ends of the pistons, substantially as shown and described.

Fourth, the devices for keeping the flyers or pistons against the sides of the cylinder, although the distance of the outside of flyers one from the other differs in their revolution, as described, and the whole arranged substantially in the manner and for the purpose set forth.

No. 51,166.—JOSEPH S. FOSTER, Virginia City, Nevada.—*Revolving Cylinder Engine.*—November 28, 1865.—This invention consists in the combination of a fly wheel with two cylinders rigidly attached to it and placed opposite each other in a radial line. These cylinders have a common piston rod, which is attached at its centre to a crank pin in such a manner that every revolution of the fly wheel caused by the action of the steam in the cylinders produces two revolutions of the crank. It further consists in the use of a disk valve in combination with the wheel upon which the cylinders are placed for the induction and eduction of the steam to and from such cylinder.

Claim.—The fly wheel A, with two rigidly attached cylinders D D′, placed opposite each other in a radial direction, having a common piston rod F, attached at the centre to a crank pin *a*, in such a manner that every revolution of the fly wheel caused by the action of steam in the cylinders produces two revolutions of the crank, substantially in the manner as herein set forth.

Also, the stationary disk valve I, with ports *d d′* and grooves *f f′*, in combination with the revolving fly wheel A carrying the cylinders D D′ and pipes or channels *c c′*, in the manner and for the purpose substantially as herein described.

No. 51,167.—A. H. FOWLER and E. J. MORGAN, Ithaca, N. Y.—*Packing Deep Wells.*—November 28, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—Packing the tube of a well by means of a compressible packing D, applied between the wall and the tube, said packing being compressible by the adjustment of the nut and washer, or their equivalents, on the threaded tube, substantially as described.

No. 51,168.—CHARLES P. FRAZER, Allowaystown, N. J.—*Mode of Sharpening Saws.*—November 28, 1865.—This invention consists of circular clamps for holding saws, and in connection therewith a device for sharpening them, which includes a handle for operating the file and a swivel for moving the filing machinery. The filing apparatus passes once along the saw, filing every other tooth, and then back again, also filing every other tooth.

Claim.—First, the combination of the concentric clamps B and C with the bed plate A, for holding a saw in position to be filed, substantially as herein described.

Second, the combination of the sliding bar D with the file E, the reversible swivel G, and fingers H and H′, the whole being constructed and arranged in relation to each other, and to the bed plate A and clamps B and C, substantially as and for the purpose set forth.

No 51,169.—JOSEPH GECMEN, Chicago, Ill.—*Malt Kiln.*—November 28, 1865.—In this invention the dryer is made with several concentric chambers. The hot air is introduced in any convenient manner into the inner chamber or pipe, where it rises into the close top of a chamber over and around it, and thence flowing down and under the bottom edges thereof, it rises in a chamber surrounded by a perforated cylinder; an adjustable conical diaphragm is set in this chamber in a position corresponding with the height of substance in the next concentric drying chamber. The outer walls of this drying chamber are likewise perforated, and at the bottom a slide is formed by an annular strip a little larger than the wall of the chamber and moved by any convenient machinery; when in place it completes the wall of the chamber, and when opened the grain flows through and down into any convenient receptacle. The hot air is also let into the chamber between the outer close cylinder and the perforated one of the drying chamber. Suitable dampers regulate the admission of hot air.

Claim.—First, the combination and arrangement of the inner perforated cylinder *a*, the adjustable diaphragm *m*, and the perforated cylinder *b*, arranged substantially as specified and shown.

Second, providing the inner cylinder *a* with the adjustable conical diaphragm *m*, arranged and operating as specified and described.

Third, the arrangement of the perforated annular slide *o* with the cylinder *b*, substantially as and for the purposes specified.

Fourth, the combination of the inverted close chamber *e* with the perforated cylinder *a*, arranged and operating substantially as and for the purposes specified and shown.

Fifth, in combination with a malt kiln, constructed substantially as described, the employment of the hot-air tubes *f h*, provided with valves *i j*, arranged as shown and specified, and for the purposes described.

No. 51,170.—ADOLPH GEISS, Buffalo, N. Y.—*Gas-burner for Cooking Purposes.*—November 28, 1865.—This invention consists of a metallic base in which the gas pipe is placed; this base opens into a chamber, the lower part being surrounded by wire cloth and guarded by slides so as to be opened or closed; the upper part consists of a cylinder covered by a dome of wire cloth, on the top of which gas is burned.

Claim.—The draught and mixing chamber A, in combination and arrangement with the perforated dome D, perforated shell E′, metallic base A2, including gas pipe F, for the purposes as described.

No. 51,171.—J. GIBBS, Warren, Mass.—*Machine for Winding Yarn for Weaving Tape.*—November 28, 1865.—In this machine a beam of sized yarn procured from a cotton mill may be rewound upon a series of tape yarn-beams, each receiving a greater or less number of threads, and each on its own independent axis, but all revolved by frictional contact from a set of rollers on one axis. Spring levers bear down each spool separately upon its roller, so that all may be wound uniformly and each filled one be removed and an empty one substituted without disturbing the others.

Claim.—First, rewinding the sized yarn from beam C upon a series of narrow and independent yarn beams I, by a series of friction wheels F, as and for the purposes stated.

Second, the combination of the self-adjusting arms *d d*, and friction wheels or drums F, with the beams I, substantially as and for the purposes set forth.

No. 51,172.—D. W. GITCHELL, New York, N. Y.—*Hat.*—November 28, 1865.—This invention is described by the claim.

Claim.—Applying a metallic or other spring formed in the shape of a ring around the body of a hat along its joint, substantially as and for the purpose described.

No. 51,173.—D. W. GOODELL, Northampton, Mass.—*Bit Stock.*—November 28, 1865.—This invention consists in placing in the socket of a bit stock two or more catches pivoted

at their upper ends and having a spring between them to throw their lower ends apart; a sliding piece fits on the outside of each catch having a screw thread cut thereon, so that when a revolving sleeve with a female screw on its inner surface takes hold of the thread on these sliding pieces they are brought down, which depresses the catches so that the hook on the end catches into the notch in the shank of the bit and holds it.

Claim.—The combination of one or more pieces A B, &c., with one or more pieces E F, &c., spring L, cap K, and stock P, when arranged substantially in the manner and for the purpose herein set forth.

No. 51,174.—WILLIAM DAKIN GRIMSHAW, New York, N. Y.—*Capstan.*—November 28, 1865.—This invention is described by the claim and engraving.

Claim.—The socket *k*, and spring pawls *l*, in combination with the gear wheels *g* and *h*, and capstan *c*, substantially as specified, whereby a separate pawl bed and pawls are dispensed with, as set forth.

No. 51,175.—WILLIAM H. GUILD, Williamsburg, N. Y.—*Pneumatic Pump.*—November 28, 1865.—This is a double acting pump consisting of a horizontal cylinder and a solid piston, the cylinder having an interiorly concave head beyond its eduction valve head, to admit of water packing, a lateral valve box also admitting water behind the piston at every stroke; the waste water escapes from the bottom of each auxiliary piston head.

Claim.—First, the arrangement of the main air-induction chamber *d*, induction-valve chamber *b*, induction valves *e*, and ports *c* and *l*, substantially as herein described, whereby provision is made for covering the said valves with water as the piston approaches or arrives at their respective end of the cylinder.

Second, the arrangement of the air-eduction chambers *r*, passages S, and openings *t* and *u*, in relation to the eduction valves in the cylinder heads, substantially as and for the purpose herein specified.

Third, the water pipes *f*, and check valves *h h*, applied in combination with the eduction-valve chambers of a vacuum pump, to induct water from a suitable reservoir at each stroke of the pump piston, substantially as herein specified.

No. 51,176.—JOHN W. HADFIELD, Newtown, N. Y.—*Skyrocket.*—November 28, 1865.—In this invention the rocket is provided with rearward projecting wings or feathers, which fold up over the body of the rocket when it is to be packed. A sheet metal ring or sleeve upon the body, sliding over the forward points of the feathers, holds them in their extended position when desired.

Claim.—First, making the wings of a rocket reversible, substantially as and for the purposes described.

Second, the sleeve C, in combination with the rocket A, and reversible wings B, constructed and operating substantially as and for the purpose set forth.

Third, the sleeve C, in combination with the guide pin *d*, constructed and operating substantially as and for the purpose described.

No. 51,177.—ALBERT HALLOWELL and H. R. BARKER, Lowell, Mass.—*Steam Cock.*—November 28, 1865.—The object of this invention is to introduce into general use a steam cock which has no perishable or elastic packing. The novelty of the invention consists in the arrangement of the ground joint, cap, key, wheel, tube, screw, nut, shank of the valve, groove, and case.

Claim.—The arrangement of the ground joint *e f*, at the lower parts of the cap F, and the key E, applied to such cap F, as described.

Also, the arrangement of the hand wheel I, or the same and the tube H, the screw *h*, nut *i*, the key shank E, the ground joint *e f*, and the cap screw F, applied to the case G, and shank Z, of the valve A, substantially as hereinbefore specified.

Also, the arrangement of the annular groove K with the ground joint *e f*, the key E, and cap F, connected with the valve and its case, substantially as explained.

No. 51,178.—W. H. HARTMAN, Fostoria, Ohio.—*Seeding Machine.*—November 28, 1865.—This invention consists in the combination and arrangement of the hopper valves and apron, the discharge of seed being regulated by said valves until it falls upon the apron and is sown broadcast.

Claim.—First, the hinged valve E, arranged and operated as and for the purpose described.

Second, the valve H, constructed, arranged, and operating as specified.

Third, the combination of the valve G, seed hopper D, valves E and H, arranged and operating as set forth.

Fourth, the distributing apron I, in combination with the valves E and H, when arranged as specified.

No. 51,179.—H. A. HARVEY, New York, N. Y.—*Machine for Threading Screws.*—November 28, 1865.—This invention consists in the employment of a wedge, which is operated by a cam and spring, so as to push the former up against the cutter-stock just previous to the

commencement of the chasing operation, and which, being drawn back by the spring after a cut is completed along the length of the blank, allows the former, and with it the cutter, to fall back, so as to release the cutter from contact with the blank.

Claim.—The combination of a cam, a wedge, and a mould or former, constructed and operating to control a chaser or threading tool in its motions, perpendicular to the axis of the blank, or nearly so, substantially in the manner hereinbefore described.

No. 51,180.—CHARLES H. HELMES, Poughkeepsie, N. Y.—*Burnishing Machine.*—November 28, 1865.—This invention consists in two rollers combined in a frame so as to burnish off the heel of a shoe at the same time; in combination with the above, jets of ignited gas are used for the purpose of heating the burners, together with an elastic rubber for keeping the surface of the burnishers bright.

Claim.—First, combining two rotary burnishers, with a frame operating substantially in the manner and for the purposes hereinbefore set forth.

Second, in combination with two rotating burnishers, an adjustable planisher, for the purpose hereinbefore set forth.

Third, in combination with two rotating burnishers, jets of gas flame for heating the same, substantially as hereinbefore set forth.

No. 51,181.—ADOLF HENRY HIRSH, Chicago, Ill.—*Manufacture of Albumen and Prussiate of Potash from Blood.*—November 28, 1865.—This invention consists in diluting the blood with water and adding charcoal and iron filings to the mass, after which it is run into suitable vats and left to settle for twenty-four hours. The clear liquid is then withdrawn from the top of the mass, and is passed into the drying apparatus, which consists of a sheet-iron pan set in a wooden vat filled with water at 120° Fahrenheit. At one end of the vat is a copper cylinder, provided with a water jacket, containing water at 120° Fahrenheit; the liquid, after passing through the pan, enters the said cylinder, which is made to revolve during the operation, and after passing through said cylinder it flows on a revolving drum containing water at 120° Fahrenheit, where it is dried, and is scraped off in the form of thin scales; the mass remaining in the tank after the first operation is dried and passed through a series of retorts, by means of which it is carbonized. It is then placed in a furnace with potash, the flame from the fire being made to pass over the surface of the mass. A tank containing ammoniacal water neutralized with sulphuric acid is so arranged that a stream of the said water may be passed into the furnace upon the burning fuel. The ammonia is decomposed, and furnishes nitrogen to the mass in the furnace. The fire is kept up for two or three hours, the tar water being supplied continually during the operation, after which the mass is withdrawn and allowed to cool, and then dissolved in water and purified by crystallization.

Claim.—First, the dilution of the blood with water, in the manner and for the purpose set forth.

Second, the use of the carbon, in the manner and for the purpose set forth.

Third, the use of the iron, in the manner and for the purpose set forth.

Fourth, the mode of drying the albumen, as set forth.

Fifth, the use of the different chemicals, in the manner set forth.

Sixth, the process of manufacturing albumen and prussiate of potash from blood, as developed and set forth in the different degrees of the process.

Seventh, the use of blood for the purposes mentioned, in the manner set forth.

No. 51,182.—H. W. HOLLY, Norwich, Conn —*Clamp for Covering Rollers with Cloth or Canvas.*—November 28, 1865; antedated November 18, 1865.—This invention consists of a clamp, placed in a suitable frame, with India-rubber lining, so that a roller can be forced down at the same time that a cover of tubular form is forced upon and doubled on the roller.

Claim.—The covering of rollers with cloth, canvas, or other material, by doubling the latter over the former in a clamp, in the manner substantially as set forth.

No. 51,183.—J. G. HOVEY, Waverley, Iowa.—*Pump.*—November 28, 1865.—In this invention the penstock is lifted and depressed by one end of a brake, and a lower cylinder by the other end, and thus a continuous flow of water is produced.

Claim.—First, the central discharging penstock A, furnished with a valve a', and working in a chamber B′, which is adapted for receiving its water at the upper end when the penstock is elevated, substantially as described.

Second, the combination of the movable chambered portion B, movable penstock A, with the connecting rods F G, lever E, and vertical guide D, substantially as described.

No. 51,184.—LAPORTE HUBBELL, Bristol, Conn.—*Marine Clock.*—November 28, 1865.—In this invention a clock is constructed with the upper part or bridge of the rear plate separate from and independent of the lower part. The lever is also of a peculiar construction, and can only be well understood by reference to the description and drawings.

Claim.—First, constructing the upper part or bridge of the rear plate B′ independent of the lower part B, substantially in the manner and for the purpose set forth.

Second, the lever N, provided with the slot *a*, and concave ends *d* and *f*, when constructed and arranged to operate in the manner and for the purpose substantially as herein set forth.

No. 51,185.—F. A. HUNT, New York, N. Y.—*Washing Machine.*—November 28, 1865.—This invention consists of two corrugated rollers, secured in a frame with a perforated trough between them, to be used on a common washboard, the trough taking up sufficient water to keep the clothes wet.

Claim.—The perforated trough D D, in combination with the fluted rollers C C, as and for the purpose specified.

No. 51,186.—B. S. HUNTINGTON, New York, N. Y.—*Latch for Blinds of Shutters.*—November 28, 1865.—In this invention an arm is pivoted near the centre of the blind nearly as long as the width of the blind. At the end, near the edge of the blind which swings open, are two catches, one to hold it when closed, and the other to hold it open; at the other end of the arm is provided an eye to take hold of a hook secured to the window sill to hold the blind part way open, and a dog dropping under the end of the arm to prevent it from being opened from the outside.

Claim.—First, the lever B, provided with catches *a a*, and operating substantially as shown and described.

Second, in combination with the above, the dog *e*, employed to lock the lever B, as specified.

Third, the hook *g*, and eye F, or equivalents thereof, in combination with the lever B, substantially as and for the purpose herein specified.

No. 51,187.—DAVID G. HUSSEY, Nantucket, Mass.—*Horse Rake.*—November 28, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The toothed segment F, provided with the concentric flanges *d d*, and having the treadles H attached by straps G G, in connection with the rack bar D, and toothed segment C, on the rake head A, all arranged substantially as and for the purpose herein set forth.

No. 51,188.—DAVID G. HUSSEY, Nantucket, Mass.—*Child's Sled.*—November 28, 1865.—This is an extension sled of the kind held under this inventor's patent, No. 48,178. The invention consists of a device for locking the sled in an extended or contracted condition; also, of a steering apparatus applicable to all child's sleds; also, of a device for checking the speed similarly applicable.

Claim.—First, the combination of runners H H, and pivoted frame *h*, with the rods *i i*, bell levers *j j*, constructed and operating substantially as herein described.

Second, the jointed levers *l l'*, constructed and applied in combination with the sled and steering apparatus, and operating in the manner and for the purpose set forth.

Third, the combination of sliding foot piece L, lever K**, shaft K*, levers K K, spurs or spikes J* J*, and spring K*, the whole constructed, arranged, and operating as described and for the purposes set forth.

Fourth, the latch or lock I *o**, for holding the sled when extended to any desired length, operated by the wedge *n*, applied and operating substantially as herein described.

No. 51,189.—A. P. JACKSON and LEANDER THOMPSON, Memphis, Ind.—*Drilling Machine.*—November 28, 1865.—This invention consists in a new and improved means employed for operating the drill, and for raising the same out of the well when required.

Claim.—The cam B, and lever C, in combination with the windlass D, all being arranged in connection with the ropes I L, and drill K, to operate in the manner substantially as and for the purpose set forth.

Also, connecting and disconnecting the windlass with the shaft of the cam, by means of a clutch, so as to admit of the windlass being turned to raise the drill through the medium of the cam shaft.

No. 51,190.—JOHN H. JUNKINS, Upper Sandusky, Ohio.—*Hay Elevator.*—November 28, 1865.—This invention consists in constructing a machine adapted for elevating hay or other material, in such manner that it will automatically convey its load to the point of delivery at the pleasure of the operator.

Claim.—First, so constructing a machine adapted for elevating hay or other material that it will automatically convey its load to the point of delivery, at the pleasure of the attendant, substantially as described.

Second, a swinging crane or jib of an elevating machine, in combination with a sled tripod frame, tie rods E E, and cap D, all arranged substantially as described.

No. 51,191.—JACOB KARR, Washington, D. C.—*Chronometer Escapement.*—November 28, 1865.—In this mechanism the balance wheel in its forward motion strikes with its pallet the end of the spring which rests against the point of the lance. The result is, that the lever is moved on its axis far enough to disengage the pallet of the detent from the tooth of the escapement wheel, and allow it to pass the end of the lever. The balance being disengaged from the escapement wheel is driven back by the full power of its spring, and is again ready to execute a forward motion.

Claim.—First, providing the detent *b*, in both its lever and cylinder form, with the additional pallet *y*, for the purposes substantially as above described.

Second, in combination with the lever, with its lance *c*, spring *e*, and detent *b*, the pallet 3 and pallet *n*, of the balance, and the back spring *g*, operating in the manner as above described.

No. 51,192.—J. I. KINSEY, South Easton, Penn.—*Railroad Turn-table.*—November 28, 1865 —This invention consists in the mode of mounting the turn-table on a centre post to turn on a ball and socket pivot.

Claim.—First, a turn-table for railroads, provided with a ball and socket pivot, substantially as set forth.

Second, the combination of the plate D, standard B, and cross-piece *d*, with the ball C, substantially as and for the purpose specified.

Third, the cap E, when used in connection with and applied to the ball and socket pivot of a turn-table, substantially as and for the purpose specified.

No. 51,193.—CHARLES KIRCHOF, Newark, N. J.—*Magnetic Telegraph.*—November 28' 1865.—The object of this invention is to improve the manipulation in the transmission of messages. Its complicity will not allow of a brief description.

Claim.—First, an independent mechanical operator having a to and fro motion, in contradistinction to a continuous motion in one direction, when said operator is so arranged as to close and break the circuit while passing in one direction only, whether the design line be stationary, and the contact maker movable, or the reverse, or both are made movable, substantially as described.

Second, so arranging the design line, or a series of them, in combination with a contact maker, that by their combined action as herein described, additions, combinations, or variations of the single signals may be producod at pleasure by the use of a mechanical operator, as set forth.

Third, limiting the to and fro movement of the operating parts by means of the sides, stops, and pointers, whereby I am enabled to regulate the number of signals sent as may be desired.

Fourth, in combination with the mechanical operator, the use of the adjustable contact breaker *e'*, for the purpose of creating an interval or space between the various series of signals sent, whereby one series may be distinguished from another.

Fifth, two or more independent mechanical operators, when arranged to operate successively. substantially as described.

Sixth, so arranging two or more mechanical operators, that as one ceases to operate it shall release or set in operation another, whereby a compound telegram may be produced, substantially as described and illustrated in Fig. 6.

No. 51,194.—E. KNABESCHUCH, New York, N. Y.—*Method of Applying Colors to Wood.*—November 28, 1865.—This invention consists in applying the colors in a powdered state by means of cotton batting, or other suitable pad, using therewith a solution of shellac in alcohol, and rubbing the color into the grain of the wood, which operation inparts a polish and finish thereto.

Claim.—Applying colors to wood, substantially in the manner described and for the purposes specified.

No. 51,195.—OLIVER LAFRENIERE, New York, N. Y.—*Boot and Shoe.*—November 28, 1865.—This invention consists of a boot or shoe constructed with a wooden sole and heel, an elastic shank, and a metallic band, the latter completely encircling the wooden sole. The upper is secured to the edge of the sole by nails.

Claim.—First, the combination of a wooden sole, a wooden heel, and a shank, flexible from sole to heel, as an improvement in the manufacture of boots or shoes.

Second, in combination with the above, the metallic band C, encircling and protecting the wooden sole B, and securing the upper to the edge thereof in the manner specified.

No. 51,196.—EDWARD LANE, Philadelphia, Penn.—*Carriage.*—November 28, 1865.—To the under side and toward the front of the body are secured two hangers, and towards the rear of the body and to its under side are secured two similar hangers. To each pair of hangers is attached a pair of levers, connected by rods. To staples, on the under side of the carriage seat, are suspended four gum elastic springs, each spring being connected with one of the levers by a rod. The object of the arrangement is to render the whole structure firm, capable of bearing a comparatively heavy weight, and susceptible of an undulating motion.

Claim.—The body A, its four springs, the levers D' D', connected directly to the cross-piece E, and levers D' D' connected to the rear axle through the medium of links F F', when the whole is arranged and operated as set forth, and is applied to a carriage in which the said cross-piece E is connected by a perch G to the rear axle, as specified.

No. 51,197.—G. W. LARGE, Yellow Springs, Ohio.—*Washing Machine.*—November 28, 1865.—This invention consists of a gravitating frame with an open slatted roller working in a concave vibrating segment with open slats, all hinged and journalled to the tub.

Claim.—The combination of the swinging and removable open slatted segmental rack or rocker D, with the open slatted roller I, journalled in the hinged and gravitating open frame H.

No. 51,198.—JAMES H. LEE, Charlestown, Mass.—*Coffee Pot.*—November 28, 1865.—In this invention the main pot has a central passage through it, and through this a pipe from the upper chamber where the coffee is placed passes down into a bottom and water chamber. The boiling water and steam ascending this pipe flows over its top upon the coffee and passes down through the perforated bottom into the main pot. The main pot can be used independently of the upper and water chambers if desired.

Claim.—The combination as well as the arrangement of the boiler A, the plug *a* and its seat *b*, the pipe B, the coffee holder F, and the pot D.

Also, the combination as well as the arrangement of the tube H with the pot D, the tube B, the vessel F, the plug *a*, the neck or seat *b*, and the boiler A.

Also, the combination as well as the arrangement of the cap or cover C, the coffe holder F, the pot D, the pipe H, the tube B, and the boiler A.

Also, the combination as well as the arrangement of the cap E, the tube H, the pot D, the vessel F. and the boiler A.

No. 51,199.—DOMINICUS R. and JAMES T. LEIGHTON, Cambridge, Mass.—*Washing Machine.*—November 28, 1865.—This invention consists of a reservoir for water, across which a bar is placed to put the clothes upon. The clothes are rubbed by a brush hinged to an arm that has a reciprocating motion, driven by a crank and wheel pulleys, so that it can be operated by the foot.

Claim.—A washing machine, the several parts of which are combined, arranged, and operated substantially in the manner and for the purpose above set forth.

No. 51,200.—LORENZO D. LIVERMORE, Beaver Dam, Wis.—*Stump Extractor.*—November 28, 1865.—This machine is provided with a main draught chain which is drawn up by the successive deflections of a sway chain passing around a large pulley on the shaft on which the draught chain is wound.

Claim.—First, the use of the sway line or chain D, operating in the manner substantially as described to produce an increasing ratio of motion.

Second, the described combination of the wheel and axle E B, sway line or chain D, and draught chain C, all arranged and operating in the manner and for the purpose set forth.

No. 51,201.—HARVEY LOCKE, South Boston, Mass.—*Machine for Removing Seeds from Raisins.*—November 28, 1865.—This invention can only be understood by reference to the drawings and specifications.

Claim.—The combination as well as the arrangement of the grate C, the compressing jaw E, and the expeller F, the same being provided with mechanism to operate them, substantially as specified.

Also, the combination as well as the arrangement of the retainer or board G and its operative mechanism with the grate C, the compressing jaw E, and the expeller F.

Also, the combination as well as the arrangement of each of the clearers H I with the grate C, the compressing jaw E, and the seed expeller F, the whole being provided with mechanism to operate them, substantially as specified.

Also, the combination of the spring blade L, or its equivalent, with the seed clearer H, the grate C, the compressing jaw E′, and the seed expeller F.

No. 51,202.—T. R. LOVETT, Mount Airy, Penn.—*Automatic Fan for Sewing Machines.*—November 28, 1865.—This invention consists in the arrangement on the table of a sewing machine of a fan, in such relation to the treadle of the machine that the necessary motion will be imparted to it directly from the treadle, as the machine is operated for sewing purposes.

Claim.—The combination of the standard C, fan D, rock shaft *d*, spring *i′*, hook *j*, and cord or wire *h e*, all arranged to operate in the manner and for the purpose set forth.

No. 51,203.—ABRAHAM J. MANNY, Freeport, Ill.—*Harvester.*—November 28, 1865.—The object of this invention is to provide for the adjustment of the angle of presentation of the fingers and cutters to the ground, so as to adapt the cutting apparatus to the nature of the work to be performed in such a way as to avoid cramping or straining the cutting apparatus or pitman.

Claim.—In a folding hinged cutting apparatus so arranged as to have rotation on a longitudinal axis to vary the angle of presentation of the fingers to the ground, hinging the finger bar to the frame by a rod, which at one point forms the axis of rotation of the cutter bar, in a plane parallel to the line of motion of the knives, and at another point forms the pintle or axis of vibration for the vertical vibration of the outer end of the cutter bar.

Also, in combination with the above, making the said rod, by an enlargement or hook which it retains on the curved slot, to form the traversing point of attachment and support for the pintle, by which the finger bar is hinged to the frame of the machine.

No. 51,204.—SAMUEL MCCAMBRIDGE, Philadelphia, Penn.—*Car Brake.*—November 28, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, the combination and arrangement of the counter shaft E and lever J with

the shaft C′, by means of the belt D″ and pulleys D D′, substantially in the manner described and for the purpose specified.

Second, the combination and arrangement of the lever J, shaft G, belt D″, shaft C′, and cams F F, with the counter shaft E, substantially as described and for the purpose set forth.

No. 51,205.—DAVID MCMASTER, Bath, N. Y.—*Fruit Ladder.*—November 28, 1865.—In this invention there is a main or central shaft or mast, with pins through it at distances of from twelve to fifteen inches. In the lower end there is a spike which enters the ground, and upon each of the four sides are pivoted braces, which are extended to support the ladder in an upright position, the braces when folded upon the shaft being longer than the shaft.

Claim.—A ladder consisting of the shaft A, the rungs B, legs C, and projecting spike D, combined and constructed substantially as and for the purpose set forth.

No. 51,206.—JACOB E. MOELLER, Terre Haute, Ind.—*Evaporator.*—November 28, 1865.—This invention consists of a pan having a perforated tray attached to the shallow side, which projects over the walls of the furnace. The tray is hinged to said side in such a manner that it may be rotated, so as to carry the impurities that collect in it over the side of said pan, where they are discharged.

Claim.—The hinged and perforated tray, so attached to the cool side of the pan and hinging within it as to collect the feculent matters, which, by the rotation of the tray, are drained and subsequently discharged, substantially as described and represented.

No. 51,207.—J. MOFFITT, Chelsea, Mass.—*Apparatus for Moulding Rubber.*—November 28, 1865.—This invention consists of a metallic case, within which revolves a steam cylinder supported on friction rollers. The said cylinder carries the moulds, which are provided with plungers and platens. The outer casing has an open space at the top, and as each platen comes under this space, it is raised automatically, and at the same time the plunger is pushed to the mouth of the mould, discharging the rubber.

Claim.—In a moulding press, the combination of a rotary series of moulds, a rotary steam cylinder, and a pressure mechanism, arranged and operating together for the purpose substantially as set forth.

Also, the method of effecting the pressure in the moulds by the rotary platens, operated upon by the friction rolls, substantially as set forth.

Also, the method of adjusting the degree of pressure upon the platens by hinging the two parts of the press together and regulating the distance between the same by the screw rods and nuts, substantially as described.

Also, the mechanism for lifting the platens and plungers, operating substantially as set forth.

Also, the eccentric construction of the surface of the press where the platens enter the same, by which each platen is gradually closed upon its moulds, substantially as described.

No. 51,208.—A. F. W. NEYNABER, Philadelphia, Penn.—*Steam Cooking Apparatus.*—November 28, 1865.—This invention consists in the combination in a steam cooking apparatus of a feeder pipe from any convenient receptacle, and an alarm whistle which is sounded by the escape of steam when the water falls below the mouth of the feed pipe.

Claim.—The combination and arrangement in a steam cooking apparatus of the feeder G D and alarm device *a* F, as and for the purposes set forth.

No. 51,209.—ALBERT G. PAGE, Augusta, Me.—*Car Coupling.*—November 28, 1865.—This invention consists in the arrangement of the lever jaws in relation to certain pins in the draw-head in such a manner that when the jaws are pressed back in the act of coupling they are forced open, and when draught is made on the shackle they clasp tightly together.

Claim.—The combination and arrangement of the spring D, the carrier C, the pins *g h i*, cams *e e f f*, abutment *m*, and lever E, and stop catch *d*, as applied to the hooked jaw levers and the draw bar, as and to operate as specified.

No. 51,210.—JEFFERSON PEABODY, Dixmont Centre, Me.—*Buckle.*—November 28, 1865.—This invention consists in a buckle made with an inclined plane arranged in its frame. and with a wedge to move and rest on said plane, with respect to the upper part of the buckle.

Claim.—The above specified buckle as made, with one or more inclined planes *a* arranged in its frame with a wedge B to rest and move on such plane or planes, and with respect to the upper part of the buckle, substantially as described, the said wedge being provided with one or more spurs or ridges to project from its upper surface, as explained.

No. 51,211.—JOSIAH W. PRENTISS, Pultney, N. Y.—*Harvester.*—November 28, 1865.—This invention consists in the manner of combining reversible cutters with the face of the guards or fingers, and will be understood by reference to the claim and engraving.

Claim.—The stationary cutters E, when made and used as specified, in connection with clasp bar D that holds them, applied as set forth.

No. 51,212.—JACOB PRICE, Jr., Petaluma, Cal.—*Crushing and Baling Machine.*—November 28, 1865.—In this machine a reciprocating motion is imparted to the baling chamber for the purpose of holding and pressing the sheets of material, the same being crushed by the rollers by means of racks and pinions connected therewith, and operated by bevel wheels, a lever, and clutches, in combination with a catch and rubber band. Loose rollers are employed for folding and compressing the material after it has passed into the baling chamber, together with grooves in the peripheries of the said rollers, through which the strings, wires, &c., may be placed in binding the bale.

Claim.—First, giving the baling chamber a reciprocating motion for the purpose of holding and pressing the sheets of material, it being crushed by the rollers as it comes from the same, by means of the racks and pinions connected therewith, and operated by the bevelled wheels V and V′, lever L, male and female clutches *d h* and *h′*, in combination with the catch K, and rubber band X, substantially as shown.

Second, the loose rollers B B, &c., working as described, for folding and compressing the material after it has passed into the baling chamber, together with grooves *a a*, &c., in the peripheries of said rollers, through which the strings, wires, bands, or hoops may be placed in binding or confining the bale, substantially as described.

Third, combining the crushing rollers and compressing rollers with a baling chamber having a reciprocating motion, obtained as shown.

Fourth, the means for discharging the bale by placing the braces against it and withdrawing the chamber, in the manner specified.

No. 51.213.—FRANKLIN B. PRINDLE, New Haven, Conn.—*Breech-loading Fire-arm.*—November 28, 1865.—In this invention a pivoted breech-piece is so connected by links to the trigger-guard lever as to form therewith a toggle joint, so as by the movement of the said lever, to be first retracted longitudinally from engagement with the barrel, and then to be tilted upward, so as to be loaded; the chamber being within the said tilting breech-piece.

Claim.—The combination of the vibrating breech-piece D with the jointed levers F and G, when operated by the guard lever H, or any other suitable lever acting on the knuckle joint, so as to communicate both a vibratory and a longitudinal motion to the breech-piece, and the whole is constructed, arranged and fitted to produce the result, substantially as herein described.

No. 51,214.—FRANK QUANT, Painesville, Ohio.—*Hoop Lock for Cotton Bales.*—November 28, 1865.—The peculiar construction of this bale tie allows any length of banding iron to be made use of, directly from the bundle in which it is usually done up, the extremities of the hoops not requiring previous preparation. Rivets are also dispensed with.

Claim.—A hoop lock, constructed with a longitudinal narrow aperture A, and an enlarged transverse aperture B, substantially as herein shown, in combination with the pin or nail D, operating as explained, for the purpose set forth.

No. 51,215.—SAMUEL RAINEY, New Orleans, La.—*Nursery Chair.*—November 28, 1865.—This invention consists of a chair in the seat of which is fixed a chamber of convenience, and whose back folds down upon the seat, so as to cover it when not in use. The centre or panel of the back revolves within the frame of the back, so as to be capable of presenting an upholstered side to the occupant of the chair when the back is raised.

Claim.—A folding nursery chair, made and operated substantially as above described.

No. 51,216.—ANDREW RANKIN, New York, N. Y.—*Deodorizing Composition.*—November 28, 1865.—This invention consists of a composition of three pounds of copperas, three pounds of sugar, three ounces of saltpetre, one pint solution of chloride of soda, and six quarts of water.

Claim.—The compound consisting of the ingredients herein specified, and either with or without the use of chloride of soda, and mixed in about the proportions named, substantially as and for the purpose described.

No. 51,217.—CHARLES A. READ, Lockport, N. Y.—*Drill Jar.*—November 28, 1865.—This invention consists of a cylindrical barrel connected to the auger stem, within which is placed a vertically moving head or piston connected with the sinker bar, which piston in the upward movement of the drill rope strikes against the barrel head, and gives the required blow or jar to the barrel and tools connected therewith, to loosen them, the moving piston being entirely protected within the barrel against any possible clogging or wedging of the same.

Claim.—A drill jar for artesian well boring, consisting of the full cylinder E, including the slots H, piston G, including the guide pins H′, piston rod G′, screw plug and socket *f′*, and screw head *f*2, substantially as set forth.

No. 51,218.—J. WYATT REID, New York, N. Y.—*Securing Pulleys.*—November 28, 1865.—This invention consists in a combination of key and set screw for securing pulleys, gear wheels, cranks, arms, &c., to rocking or revolving shafts.

Claim.—The combination of a key with a set screw or screws, applied substantially as herein described, as a means for securing pulleys, gear wheels, arms, and similar articles of shafts.

No. 51,219.—JOHN REILLY, Baltimore, Md.—*Machine for Dressing Tiles.*—November 28, 1865.—A slotted vertical plate is secured to two arms, (one at top, the other at the bottom,) which arms rotate around a vertical bar or axis. A projecting edge of this plate serves as a rest or bearing for one side of a tile. An adjustable plate or edge above, and at right angles to it, serves as a second rest for one side of a tile. A curved, rotating arm, having a clamping or jamming screw passing through its lower end, keeps the tile tight up against the main plate and the edges before mentioned. A removable angular strip or edge on the right-hand side of the plate permits the tiles to be readily introduced or removed. To dress the longest side of a triangular tile, two sides being at right angles to each other, an elbow strip is attached to the face of the main plate. A sleeve or stop, intended as a gauge, (and adjustable at pleasure,) is placed on the vertical bar or axis, which limits the grinding of the lower edge of a tile. This plate or clamp can be swung over or off the grinding stone, and by means of a treadle, pulley, &c., raised above or let down upon it. It permits three kinds at least of tiles to be dressed with trifling adjustments.

Claim.—First, the holding swinging and adjustable clamp A, constructed and operating substantially as described for the purpose set forth.

Second, the combination of arm D with the face plate of A.

Third, the combination of adjustable strip *e* with the face plate of A.

Fourth, the combination of removable angular strip *d* with the same plate.

No. 51,220.—E. REYNOLDS, Corunna, Mich.—*Bag Holder.*—November 28, 1865.—This invention consists of a bag holder having two crescent-shaped jaws with a bent wire spring centrally attached to their upper sides and inclining back as it rises, so that at the top of the spring a hook or other appliance for hanging the bag will cause it to swing clear, whilst the spring holds the jaws extended to the capacity of the bag.

Claim.—A bag holder constructed substantially as herein shown and described.

No. 51,221.—CHARLES E. RICKER, Lowell, Mass.—*Steam or Water Valve.*—November 28, 1865.—The object of this invention is to shut off the steam or water from the spindle of the valve, so as to permit the removal and supply of new packing without shutting off the steam or water from the pipes. Its novelty consists in the combination of the stand with the valve, spindle, packing nut, and wheel.

Claim.—The combination and arrangement of the stand B with the valve E, spindle D, packing nut C, and wheel F, whereby the steam or water may be shut off from the spindle, and its packing renewed, without interrupting the passage of steam or water through the pipe, substantially upon the principle and in the manner herein set forth.

No. 51,222.—ARCHIBALD RIDELL, Chicago, Ill.—*Sash Lock.*—November 28, 1865.—This invention consists in a sector, secured to a sash whose outer edge is toothed, into which gears a ratchet wheel. A lever is riveted to the ratchet wheel in such a manner as to allow the wheel to rotate; the lever and wheel are secured to the sector in such position as to allow the ratchet wheel to come in contact with the window frame and securely hold the sash at any height desired.

Claim.—The combination of the weighted lever with the sector D and wheel F, constructed and arranged substantially as described.

No. 51,223.—ALBERT ROLL, South Amboy, N. J.—*Railroad Car Coupling.*—November 28, 1865.—This invention consists of a coupling provided with a supplemental coupling link, in such manner that the link which connects the cars is attached permanently at one end to its coupling box, while at the other end it is safely held in place by the coupling on the opposite car. This coupling secures connections between cars of different heights as well as between those of the same height.

Claim.—First, providing each one of the coupling boxes of a car coupling with a permanently attached coupling link in combination with the fixed self-acting catches *c c*, substantially as described.

Second, attaching the links *a a* to their coupling boxes by means of vertical rods *b b* in combination with the catches *c c* and fixed studs *e e*, substantially as described.

Third, the stirrups *g g*, in combination with the coupling links *a a*, substantially as described.

Fourth, loading the rear ends of the permanently attached coupling links in such a manner that when these links are moved in a position to form a connection, they will remain in said position until the connection is made, substantially as described.

No. 51,224.—J. J. SAVAGE, Troy, N. Y.—*Cook Stove.*—November 28, 1865.—In this invention partitions so divide the upper part of the fire chamber that on one side is the supply of coal, which passes freely under the partitions to the fire, and on the other the combustion

chamber. Between these partitions is an air chamber with apertures for external air, and others opening into the combustion chamber; between this chamber and the oven is another air space with similar apertures. The under sides of division plates and boiler-hole covers are formed with a series of projecting flanges in parallel lines, or in concentric circles.

Claim.—A divided fire chamber for stoves and heaters, substantially the same as herein described, and for the purposes as set forth.

Also, the partition plate B, or its equivalent device, constructed and arranged, in the fire chamber, with its bottom side in proper position to the grate thereof, in the manner substantially as herein fully described and for the purposes set forth.

Also, in combination with the partition plate B, the air-heating chamber C, constructed and arranged substantially in the manner as herein shown and set forth, and for the purposes as specified.

Also, arranging the air-heating chamber D, the combustion chamber Y, and air-heating chamber C, with reference to each other, in such a manner that the products of combustion shall pass between said chambers in the manner substantially as herein shown, and for the purposes as set forth.

Also, the method of constructing the under or fire side of stove centre pieces or division plate and boiler-hole covers, in the manner substantially as herein shown and described, and for the purposes as set forth.

No. 51,225.—FRANCIS SCHOPP, New York, N. Y.—*Breech-loading Fire-arm.*—November 28, 1865.—In this invention a double chambered square breech-piece is fitted into a transverse opening or mortise in the stock or frame of the arm so as to move laterally therein, and thus bring each of the chambers alternately into line with the barrel, the other being reciprocally exposed for loading. A spring pin acting on inclined faces, attached to the breech-block, serves to keep the chambers respectively in true position.

Claim.—A pin S, acted upon by a spring and operating the breech-piece G, in the manner and for the purpose substantially as set forth and specified.

No. 51,226.—REUBEN SHALER, Madison, Conn.—*Balances.*—November 28, 1865.—This invention consists of an arrangement of the supports of a spring platform scale, by which the bearings are prevented from being affected by the weight of the platform.

Claim.—The combination of the supports E and F, the parallel bars G G, and a spring S, or its equivalent, arranged substantially in the manner and for the purpose specified.

No. 51,227.—NICHOLAS SHOEMAKER, Montrose, Penn.—*Grinding Mill.*—November 28, 1865.—In this invention the driver for millstones is so constructed by enlarging the slot through which the spindle runs, that it adapts itself to the bail, and acts equally at each end upon the runner.

Claim.—The horizontal bar A, applied to the spindle of millstones, in connection with the driver B, provided with a recess to receive the bar A, substantially in the manner as and for the purpose set forth.

No. 51,228.—BENJAMIN M. SMITH, New York, N. Y.—*Fan.*—November 28, 1865.—This invention is fully described by the claim.

Claim.—As a new article of manufacture a fan constructed of veneer, strengthened with a rim of metal or other suitable material, substantially as herein described.

No. 51,229.—FRANKLIN G. SMITH, Columbia, Tenn.—*Steam Gun for Driving Stock from Railroad Tracks.*—November 28, 1865.—This invention consists in providing a suitable hopper upon each side of the engine for containing a quantity of balls made of baked clay. From this hopper proceeds a pipe for conducting the balls to a horizontal pipe lying by the side of the cylinder port of the boiler, and which, by means of a globe joint, is susceptible of being raised, or depressed, or moved laterally, with reference to the track, so as to bring it to bear upon any animal upon different parts thereof. The horizontal pipe is connected with the boiler at its rear end by means of a chamber provided with a cock for opening and closing the communication with the boiler when the ball is in its position in the pipe, and the force of the steam is relied upon for shooting the ball therefrom with sufficient force to produce the desired effect.

Claim.—The self-loading railroad steam gun with its arrangements of stop-cock for the explosive jet, spring catch for holding the ball in the chamber of the piece so that it cannot roll out, and tubes for containing the clay balls, substantially as shown and described.

No. 51,230.—GEORGE W. SMITH, Covington, Ky., and CHARLES F. HENISS, Cincinnati, Ohio.—*Rock Drill.*—November 28, 1865.—This invention consists in making the drill stock partly hollow, and providing a tube or hose attachments for the purpose of introducing water under pressure into the hollow part of the drill stock, in order to have the water issue therefrom through suitable apertures, to free the drill of the boring meal and remove the same by the overflow of the water.

Claim.—The method herein described of freeing rock drills by a jet or jets of water under

pressure, which shall also remove by overflow the boring meal and debris produced by the drill and jet or jets of water, substantially as set forth in the foregoing specifications.

Also, the combination and arrangement of the tube or hose and the chambered drill, substantially as hereinbefore described.

No. 51,231.—JOHN H. SMITH, New York, N. Y.—*Treating Peat.*—November 28, 1865.—This invention consists in treating the peat with wet steam, or alternately with wet or superheated steam.

Claim.—First, treating peat with wet steam, substantially as and for the purpose described.

Second, the application to peat of wet and superheated steam combined, substantially as and for the purpose set forth.

No. 51,232.—C. A. SMYTH, Charleston, Ill.—*Automatic Brake.*—November 28, 1865.—This invention consists of a brake shaft connected with the front bolster of the vehicle; of a bolster applied to the vehicle; and of a perch or reach, slotted at its forward end in such a manner that the front bolster in descending a declivity is made to serve as a lever to apply the brakes. The shoes are so arranged that they do not interfere with the backing of the carriage.

Claim.—The shaft K, provided with the cranks *e f f*, and shoes L L, placed on the bar J, in relation with the wheels C, as shown, in connection with the slotted reach D, and the front bolster H, connected by a pivot bolt *a** to the wagon bed or body, near one end, fitted on the king-bolt G as a fulcrum, and connected to the shaft K by the rod *g*, all arranged to operate in the manner substantially as and for the purpose set forth.

Also, the slotted shoes L L placed on the cranks *f f* of the shaft K, for the purpose of admitting the shoes to rise under the reverse motion of the wheels C in backing, substantially as set forth.

No. 51,233.—GEORGE K. SNOW, Watertown, Mass.—*Paper Collar Machine.*—November 28, 1865.—In this machine the carriage of the stamping machine is made to slide transversely upon its bed plate by a suitable mechanism. The paper is cut the precise width of the collar, and fed continuously from a roller in a fixed position. There are two stamps, the distance between which is regulated by an adjustable screw rod. Each of these stamps is in duplicate; the first forms the end of a collar and makes an end buttonhole; the second makes the centre buttonhole. As soon as an impression is made, the carriage moves on its bed so as to bring the other sides of the dies into play; thus the two ends of each collar are formed with reversed lines, or flaring from the centre. A plate having guides to direct the paper entering to be stamped, is fixed to the front part of the carriage by a set screw.

Claim.—The above described arrangement and combination of end and buttonhole dies, irrespective of the middle buttonhole dies.

Also, the above described arrangement and combination of end and buttonhole dies, inclusive of the middle buttonhole dies.

Also, in combination with the end dies and the middle buttonhole dies, arranged as specified, a mechanism for adjusting the distance of the said middle buttonhole dies from the end-forming dies.

Also, in combination with the end-cutting dies and the middle buttonhole dies arranged as described, the gauges Z Z, whether stationary on the carriage B, or adjustable thereon, as specified.

Also, the end-forming dies, substantially as described, for shaping the contiguous ends of two collars at one operation.

Also, the formation of collars from a continuous strip, in the manner, or with their ends to envelop one another, as hereinbefore described, and as represented in figure 9.

Also, the formation of collars in a continuous strip of paper, as described, by means of end-forming dies, arranged as specified, and by alternately changing the strip from one side to the other of the middle line of the dies, as specified.

No. 51,234.—GEORGE K. SNOW, Watertown, Mass.—*Paper Collar Machine.*—November 28, 1865.—The nature of this invention will be understood by reference to the claim, the mechanism of which is too complicated to be briefly described.

Claim.—An automatic combination, consisting not only of mechanism for feeding a sheet along with an intermittent motion, and of machinery for stamping shirt collars or articles from such sheet, but of machinery for embossing such collars or articles on both the opposite sides thereof.

Also, a combination consisting not only of such mechanical elements, but a mechanism for folding each collar.

Also, an automatic combination, consisting not only of mechanism for manufacturing such collars from a sheet, and embossing them on two opposite sides, and folding them in manner as described, but mechanism for discharging each collar from the folding element or machinery, after the folding of such collar thereby.

Also, a combination, consisting not only of mechanism for manufacturing or stamping

shirt collars from a sheet, and feeding them as described, but mechanism for curving or bending each of such collars, in manner and for the purpose specified.

Also, a combination, consisting not only of mechanism for manufacturing or stamping shirt collars from a sheet, and mechanism for embossing them as described, but mechanism for folding them, and mechanism for curving them, in the manner and for the purpose as specified.

Also, the arrangement of the folding tablet inclined relatively to the stamping mechanism, in order that each collar, on being discharged from the latter, may be caused by the action of gravity to slide down the tablet and against its guides, and abut against its stop or stops, and be carried underneath the folding blade, substantially as specified.

Also, the combination of the edge guides *d' d'*, or the same and the top surface guides *e' e'* and stop *b'*, or such stop *b'* and the end stops *c' c'*, with the inclined slotted tablet and its folding blade.

Also, the combination of the same, and mechanism substantially as described, for making collars from a sheet, or making and embossing collars.

Also, the combination and arrangement of the stops *f' f'*, with the mechanism for stamping the collars from a sheet of paper, or other material.

Also, the improved collar discharging and curving mechanism, consisting of the driving roller *c*4 and the endless belt K, and supporting rollers, or their equivalents, arranged together in manner and so as to operate substantially as described.

Also, the combination of the adjustable male and female dies for forming the ends of the collar.

Also, the arrangement of the severing dies with the male and female dies for cutting the ends of the collar.

Also, the arrangement of the embossing dies, with the end-cutting and severing dies, as specified.

Also, the above described combination of separate adjustable male and female dies for forming the ends with the separate adjustable dies for forming the sides of the collar, as herein described, the said adjustable male and female dies enabling collars of different sizes to be made, as herein described.

Also, the dies or cutters, as herein described, for forming the lower edge of one and the upper edge of another collar at the same time.

Also, a combination, consisting of the mechanism as described, for forming collars, and the mechanism as described, for folding them.

Also, the combination of the end guides *d' d'* with the top guides *e' e'*, for guiding the collar to the proper position to be folded.

Also, the combination of dies for embossing both sides of the collar, with dies for forming the collar, substantially as described.

Also, the adjustable male and female dies for forming the ends of the collar and the end buttonholes at the same time, as herein described.

No. 51,235.—GEORGE K. SNOW, Watertown, Mass.—*Die for Cutting Paper Collars.*—November 28, 1865; antedated November 15, 1865.—In this invention the side cutters are held together by the transverse end cutters, the latter being movable for adaptation to collars of different lengths. The central buttonhole cutter is stationary, the end buttonhole cutters moving with the end portions of the die.

Claim.—The combination of the adjustable end cutters C C with either one or two side cutters, as described.

Also, the combination of adjustable buttonhole cutters and end cutters with either one or two side cutters.

Also, the combination of the adjustable end and buttonhole cutters and one or two side cutters, and a middle buttonhole cutter stationary relatively to the side cutter, to which it may be connected, the whole being substantially as and for the purpose hereinbefore specified.

No. 51,236.—D. E. SOMES, Washington, D. C.—*Apparatus for Heating, Cooling, and Ventilating.*—November 28, 1865.—In this apparatus, in combination with the ordinary furnaces used in heating buildings, is a cooling device, consisting of a well or tank sunk in the earth, through which passes a series of air passages communicating with spaces, one of said spaces being connected with the blower by means of pipes, and the other space with the furnaces by means of flues. By this means a current of cool air may be caused to pass into the building in the summer through the same flues used for warming in the winter, and during the winter the water in the tank may be heated in any suitable manner, and the air passing through the flues warmed before entering the furnace.

The invention further consists in causing the warm foul air escaping from the building in winter to warm the fresh air before entering the furnaces.

Claim.—First, the construction and arrangement of a system of tubes or pipes in a cooling tank or cistern, so as to obtain a large cooling surface, substantially as set forth and described.

Second, the combination of a system of warming and cooling apparatus with devices for receiving, cooling or warming, and distributing air in buildings or apartments, as described.

Third, the combination of the flues or channels for introducing air into and expelling air from buildings, so as to economize in heating or cooling, as herein described.

Fourth, the combination of an air-forcing apparatus with a system of flues or channels for cooling air, as described.

Fifth, the arrangement of devices whereby the foul air is driven off through or near the floor, and fresh air is thrown into the upper part of the building.

No. 51,237.—D. E. SOMES, Washington, D. C.—*Mode of Cooling Air.*—November 28, 1865.—This invention consists of a portable cooler containing ice spaces in the upper part, through which pass flues which are provided with suitable air inlet apertures and registers. The cooler is also provided with a space for water, beer, &c.

Claim.—First, the combination of the vane with an air-cooling apparatus, as described.

Second, the valves to conduct air and prevent the back thereof, in combination with the air-cooling apparatus, as described.

Third, the liquid cooler or coolers, in combination with the air-cooling apparatus, substantially as described.

Fourth, the combination of the refrigerating chambers with an air-cooling apparatus, substantially as described.

Fifth, the devices for admitting and regulating the air, as described.

Sixth, the refrigerating chambers D, constructed and cooled substantially as described.

Seventh, the air cooler in combination with tubes or channels for conducting air to different apartments, as described.

Eighth, the combination of devices so as to form apparatus to be used for either heating or cooling air or water, or air and water, substantially as described.

Ninth, the combination of the propeller wheels with air flues or ducts, so as to operate substantially as described.

No. 51,238.—EDWARD SPELLERBERG, Philadelphia, Penn.—*Artificial Arm.*—November 28, 1865.—In this invention a detachable hand is so fitted to the fore arm as to admit of a natural degree of rotary motion at the wrist, and that the hand may be detached by simply unlatching and withdrawing it from the socket without the trouble and delay usually necessary in disuniting the mechanism employed in moving the fingers. In place of the hand a grasping claw, having a swivelling socket, may be attached to the arm at will.

Claim.—Making the hand adjustable in the wrist socket in any manner equivalent to that herein described, when the parts transmitting motion to the finger mechanism are constructed relative to the hand adjustment, substantially as and for the purpose specified.

Also, so actuating the finger mechanism of a detachable hand by the described devices, or their equivalents, that the hand can be removed from the wrist socket without separately disconnecting its mechanism from that of the arm.

Also, providing the described grasping instrument, or its equivalent, with a swivelling socket, as and for the purpose set forth,

No. 51,239.—MARTIN W. STEVENS, Stoughton, Mass.—*Embroidering Attachment for Sewing Machines.*—November 28, 1865.—This device is secured to a tube or sleeve, which may be fastened on the shaft of a rising and falling presser foot, and its crossing thread carriers are connected to and operated by a lever, whose inclinations and shoulders, in rising, alternately come in contact with a spring vibrator.

Claim.—The combination or mechanism for operating the embroidering yarn carriers or arms E E, the same consisting of the studs *f f*, the actuator F, and the vibrator G, with its arms *p g*, and spring *r*, and stop pins S S, the whole being substantially as specified.

Also, the combination of the screw *t*, and spring *m*, and the holding plates *i k*, and the actuator F applied to the presser, and the arms E E, substantially as specified.

Also, the combination of the socket piece *d*, or its equivalent, with the presser foot and the arms E E, applied thereto as described.

No. 51,240.—O. W. STOW, Plantsville, Conn.—*Stove-pipe Elbow.*—November 28, 1865.—This invention consists in making the stove-pipe elbow in two longitudinal parts, so pivoted in the line of axis of motion, and held in position by a screw bolt passing from one part to the other, that one end may expand and the other contract, and *vice versa*. Pipes of different sizes can be used with this elbow.

Claim.—Making the two parts of the elbow to turn or swivel on points or pivot D E, in combination with the bolt C, as and for the purposes set forth.

No. 51,241.—THOMAS SYMONDS, Portland, Me.—*Heel Calk.*—November 28, 1865.—This invention consists of a right angular plate provided with a slot; one extremity of the calk is armed with two prongs; said calk is fixed to the fore part of the heel by means of a button. When not in use the prongs are turned upwards, so as to rest on the sole of the boot.

Claim.—The combination of the plate A, having the slot *c*, the prongs *b b*, and turned-up points *d d*, with the button *f*, as and for the purpose described.

No. 51,242.—THOMAS SYMONDS, Portland, Me.—*Toe Calk.*—November 28, 1865.—This invention consists of a bar or plate to be placed under the sole of a boot or shoe, and having upon its under surface four points, and upon its upper surface two projecting points. At either end the bar is provided with a ring, and into the ring is fastened an elastic band, which is to be passed over the top of the boot or shoe.

Claim.—The combination of the plate A, the band B, the rings C, the barbs *e*, the points *d*, and the shoulders *f*, as and for the purpose described.

No. 51,243.—WM. TIBBALS, South Coventry, Conn.—*Breech-loading Fire-arm.*—November 28, 1865.—In this invention a transversely sliding block or key at the rear portion of the chamber is pressed upward by a lever,for the purpose of clamping the cartridge and holding in place within it a loose replaceable anvil, having a nipple for carrying a percussion cap.

Claim.—Securing a loose anvil in the cartridge shell, when placed in the gun barrel, by means of pressure applied thereto, substantially as described.

No. 51,244.—JAMES TRACY, Brewer, Me.—*Saw Mill.*—November 28, 1865.—This invention consists in having a series of notched gauges or blocks sliding on the gauge bar of a length corresponding with the distance of the saws apart when in place, so that when the screw nuts are tightly screwed upon these gauges the saws resting in the notches at the ends of the blocks are all firmly held in place.

Claim.—The improved gauge, as not only having its movable gauges D made with gains, as represented, for receiving and holding the saws, but as furnished with the stationary collar E and the nuts C B B B, and their separate screws, arranged as specified.

No. 51,245.—JAMES WALLACE, Berks county, Penn.—*Plough.*—November 28, 1865; antedated May 28, 1865.—This invention consists in forming of one piece the land-side and share by means of welding, in combination with the cutter of the same, for the purpose of cutting the stubble.

Claim.—The land-side C and share L, when constructed as described, in combination with the cutter F, as herein specified.

No. 51,246.—D. T. WARD, Cardington, Ohio.—*Churn.*—November 28, 1865.—This invention consists in the manner of constructing the dasher, in which two rods are placed at right angles to the main shaft, said rods being provided with dasher blocks at suitable distances apart, so that the spaces between them form openings for the cream to pass through as it is agitated by the dashers.

Claim.—The arrangement of the dasher shaft with the wing *d*, the rods *b b*, and the dashers *a a*, as and for the purpose specified.

No. 51,247.—ALBIN WARTH, Stapleton, N. Y.—*Guide for Sewing Machines.*—November 28, 1865.—This guide consists of a fork with three or more prongs through which the material to be served is drawn in order to produce the requisite friction and dispense with basting. An oblique position is given to the prongs, so that the material to be sewed may be carried up against the gauge. The guide is used in connection with a gauge, adjustable on an angular guide-bar, in such a manner that when the guide and gauge are not needed they may be turned upon the side of the standard supporting the needle slide.

Claim.—First, a cloth guide for a sewing machine, composed of a fork with three or more prongs, disconnected at their outer ends, substantially as and for the purposes set forth.

Second, giving to the prongs of the forked guide an oblique position, substantially as and for the purposes described.

Third, the adjustable gauge C, applied to the forked guide A′, substantially as and for the purposes set forth.

Fourth, the angular guide bar D, in combination with the forked guide or guides, and with the main gauge B, constructed and operating substantially as and for the purposes described.

No. 51,248.—WILLIAM C. WELLS, Newark, N. J.—*Drill Gauge.*—November 28, 1865.—This invention consists in attaching to a V-shaped gauge an inclined stationary arm upon which another inclined arm is made to slide in ways by means of a thumb-screw, both of which arms form the proper angle to gauge the point of the drill. The sliding arm adjusts the tool to any sized drill.

Claim.—First, the construction of an adjustable gauge in such a manner as to bear on the sides, point, and both the cutting lips of a drill, simultaneously.

Second, the manner of placing a stationary blade B above a V-shaped guide A, so that said blade shall stand vertically and obliquely, and shall describe two given angles, for the purpose as herein specified.

Third, the transverse blade C, which is provided with a tongue I, and which is attached to the stationary blade in such manner and for such purpose as is herein set forth.

Fourth, providing the traverse C with a shoulder S, so as to underlap the lower edge of the stationary blade B, for the purpose as herein specified.

No. 51,249.—NORMAN W. WHEELER, Brooklyn, N. Y.—*Flue Cleaner.*—November 28 1865.—This invention consists of a short section of pipe open at both ends and made of a di-, ameter and form suitable for fittings over the ends of the flues and upon the flue sheets, the pipe having a handle for convenience in shifting it from one flue to another. On a line with the handle, and near the inner end of the pipe, is attached a flexible pipe which terminates in a nozzle within the pipe, which is curved so as to allow the jet of steam which passes through it to issue in a direction parallel with the axis of the flue and the pipe composing the body of the instrument. This pipe is placed against the front flue sheet of the boiler and over the flue, and the stop-cock in the flexible pipe is opened, and the draught formed in or through the flues causes the deposits to be carried out, and the flue is cleaned without being wet upon its interior surface.

Claim.—The combination of the pipe *a*, nozzle B, handle *f*, and flexible or jointed pipe E, constructed substantially as described and for the purposes set forth.

No. 51,250.—JEROME WHEELOCK, Worcester, Mass.—*Piston Packing.*—November 28, 1865.—This invention is designed as an improvement in that class of pistons in which sectional rings are used in combination with a T-shaped or grooved ring, placed between the piston head and the follower.

Claim.—First, arranging the T-shaped or grooved ring D in two or more sections, as and for the purpose described.

Second, the curved recesses *c*, and the tongues *d*, at the ends of the sections of the packing rings, as and for the purpose shown and described.

Third, the mortises or recesses *f*, in combination with the sectional packing rings, constructed and operating substantially as and for the purpose set forth.

No. 51,251.—EDWARD S. WINCHESTER, Boston, Mass.—*Carriage Wheel.*—November 28, 1865.—This invention consists of projections on the felloes of a wheel, flush with the periphery of the tire, of suitable form and material. These projections are strongly secured to the wheel, and when the latter is swerved from the railroad track, on which wagons often run in cities, the projections catch upon the highest part of the rail and bear their proportional part of the load. They thus assist wagons in turning off tracks by lifting the wheels from the ruts of the track.

Claim.—Providing wheels with projections, arranged to operate substantially as set forth.

No. 51,252.—ARCALOUS WYCKOFF, Elmira, N.Y.—*Machine for Boring Tubes.*—November 28, 1865.—This invention consists in a series of cutters, attached to or around a common axis, and so constructed as to clear itself of the chips as they cut out their concentric spaces.

Claim.—First, the combination of two or more concentric annular cutters, the stocks supporting which have a common axis of rotation.

Second, the combination of the head A, with two or more spiral stocks, having a common axis supporting concentric annular cutters when constructed substantially as and for the purpose set forth.

Third, constructing the cylindrical frames exterior to the central one in a gang of annular cutters having spiral flanges, with open spaces between them for the free discharge of the cuttings, substantially as set forth.

Fourth, the arrangement of the supports for the open spiral stock, substantially as and for the purpose set forth.

No. 51,253.—DANIEL YOUNG, Burlington, Ill.—*Broom.*—November 28, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The combination of ferrule A, fork F, case P, bolt O O″ and clasps 1 2 3 4, the whole constructed, arranged, and operated substantially in the manner and for the purpose set forth.

No. 51,254.—JAMES H. BELSER, assignor to himself and SIDNEY G. FAY, Marlboro', Mass.—*Machine for Shaping Heels of Boots and Shoes.*—November 28, 1865.—This invention consists in the combination of a toe-clamp, and its latch, with a standard provided with an adjusting screw; of a carriage, with its knife, and also of a rocker tube, with a slider, its supporting standard, the knife and shoe holder.

Claim.—The combination of the toe-clamp *g*, and its latch *h*, with the standard E, provided with an adjustable screw, and applied to the base of the holder, as described.

Also, the combination and arrangement of the carriage *h* and its adjustments with the knife C, the same being affixed to such carriage, in manner and for the purpose substantially as described.

Also, the combination and arrangement of the rocker tube E with the slider D, its supporting standard *b*, the knife C, and the shoe holder, as described.

No. 51,255.—A. C. BRECKENRIDGE, Meriden, Conn., assignor to H. J. HALE, New York, N. Y.—*Tobacco Cartridge.*—November 28, 1865.—This invention consists of a pasteboard base, with a concave perforated plate above, upon which the tobacco rests, the tobacco being enclosed in a paper capsule.

Claim.—A tobacco cartridge, constructed substantially as above described.

No. 51,256.—JOHN E. BROWN, assignor to himself, CHARLES A. MOTT, and A. A. PEEBLES, Lansingburg, N. Y.—*Harness Hames.*—November 28, 1865.—This invention consists in combining with the hames an adjustable spring-rein ring and upper hame-strap ring.

Claim.—Adjustable harness hames, formed by combining the movable part C D G, and spring H J, with the hames, substantially as described and for the purpose set forth.

No. 51,257.—JOSEPH K. BROWN, Providence, R. I., assignor to JOSEPH K. BROWN and SHARPE.—*Screw-cutting Machine.*—November 28, 1865.—This invention consists of one hollow mandrel placed within another and supported upon a suitable frame, the outer mandrel having a driving pulley and a chuck on its inner end. This chuck contains four radial longitudinal slots, in each of which is a jaw of somewhat less width than the radial depth of the slot, the face being parallel to the axis and the outer edge tapering from the front to the rear. Between these jaws and the cylindrical cap or ring surrounding the whole are tapering keys, the rear ends of which are attached to radial arms projecting from the inner end of the central hollow mandrel, to which, by means of a screw at the rear, a longitudinal movement is imparted, forcing the wedges or keys forward between the outer ring or shell of the chuck and the jaws, which are thereby forced toward the centre and clamp the rod or bolt between them.

Claim.—First, the combination of a set of griping jaws *l*, and a set of wedges on a sliding rod or tube *m*, or its equivalent, with a hollow screw F, the same being constructed and arranged to operate within a revolving spindle, substantially as described, for the purpose specified.

Second, the combination of the threading tool holder and the reversible clutch, constructed and arranged to operate with a revolving spindle, substantially as described, for the purpose specified.

No. 51,258.—JARVIS DAVIS, assignor to PATRICK SMITH, Buffalo, N. Y.—*Breech-loading Fire-arm.*—November 28, 1865.—In this invention the arm has a breech block moving downward through a slot or mortise in the stock, and the barrel is provided at its rear end with a sleeve having a thumb-piece, by the rotation of which sleeve the said breech-block is depressed and the cartridge case expelled by a sliding retractor.

Claim.—First, the spirally grooved sleeve E, provided with a thumb-piece H, arranged and used for the purpose of imparting the requisite movements to the cartridge holder, substantially as set forth.

Second, the combination of the sleeve E, spring bar F, and sliding abutment D, when arranged and operating in the manner and for the purposes set forth.

No. 51,259.—B. M. FOWLER, Hackensack, N. J., assignor to himself and WILLIAM HANIGAN, Brooklyn, N. Y.—*Meat Compound.*—November 28, 1865.—This invention consists of a composition of pork scraps, salt, pepper, and mustard. The pork scraps are finely pulverized and mixed with the spices, after which the mass is formed into cakes for use.

Claim.—A meat compound, prepared as above specified.

No. 51,260.—GEORGE W. GILBERT, Radnor, Penn., assignor to himself, G. RIGHTER, Jr., and J. B. MAXWELL, Spread Eagle, Penn.—*Barrel Head.*—November 28, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The within described barrel head, consisting of the pieces B B′ and D, and the set screw E, the whole being constructed and adapted to a barrel, substantially as and for the purpose herein set forth.

No. 51,261.—CHARLES KIRCHHOF, Newark, N. J., assignor to himself and LEONARD J. STIARSTRY.—*Magnetic Telegraph.*—November 28, 1865.—This invention does not admit of a brief description; its nature is explained by the claim.

Claim.—First, the indicating and recording instrument, actuated by electricity, arranged to automatically shift the actuating mechanism, and thereby move the dial or index in one or the other direction, in accordance with the transmitter, or as may be desired by the attendant, substantially as described.

Second, securing a harmonious action between the transmitter and a series of receiving instruments, by so arranging or constructing the latter that their dials or indices shall all cease to move or operate at a certain fixed place or character common to them all.

Third, transferring the motion of the receiving instrument at pleasure to an instrument to be operated independent of the indicator, by the same helix or helices.

Fourth, the combination of the recording cylinder, or its equivalent, with the indicating instrument, arranged and operating substantially as set forth.

Fifth, transmitting the communications, automatically, by a mechanism defining the number of electric impulses, their direction and intervals, by a simple manipulation of the attendant, substantially as described.

Sixth, the reversing gear, when arranged to be operated by electricity, for the purpose of automatically changing the motion of telegraphic mechanism.

No. 51,262.—WILLIAM R. LANDFEAR, Hartford, Conn., assignor to DAVID WHITTIMORE, North Bridgewater, Mass.—*Pegging Jack.*—November 28, 1865.—This invention consists in the application of a last-holder supporting plate to a standard by means of three sustaining pins or screws and their slots.

Claim.—The application of the last-holder supporting plate B to the standard C, by means of three sustaining pins or screws *d e f*, and their slots *g h i*, arranged substantially as described, the slot *i*, of the lower screw *f* being formed with curves whose radii proceed from the axes of the screws *d e*, as explained.

No. 51,263.—CHARLES A. LA MONT, New York, N. Y., assignor to C. A. LA MONT and DAVID A. BURR, Washington, D. C.—*Preserving Eggs.*—November 28, 1865.—This invention consists in desiccating eggs at a temperature but slightly greater than the highest degree of heat to which they will be exposed in any climate, and in such a manner as to preserve their natural flavor unimpaired.

Claim.—As a new article of manufacture eggs desiccated and hardened into small, bright, thin flakes or particles, readily soluble in cold water, and retaining their qualities and flavor, all substantially as hereinbefore set forth.

No. 51,264.—PETER H. NILES, Boston, Mass., assignor to himself and AUGUSTUS RUSS, Cambridge, Mass.—*Preserve Can.*—November 28, 1865.—This invention consists of a can having a rubber packing ring secured in its mouth. The cover is made in the shape of a cup, and is secured to the can by means of wedges and hooks.

Claim.—As an improvement in preserve cans the elastic packing ring *b*, in combination with the cover B, provided with wedges or inclines *d*, and the hooks *e*, or their equivalents, operating substantially as and for the purpose set forth.

No. 51,265.—DANIEL R. PRATT, assignor to J. MARCUS RICE, Worcester, Mass.—*Spike.*—November 28, 1865.—This invention consists in making two sides of the spike corrugated, so that after it has been driven the wood will swell into the indentations and hold the spike tightly, but not too tight to be drawn.

Claim.—The above-described corrugated spike, as an article of manufacture.

No. 51,266.—WILLIAM QUANN and WILLIAM T. SMITH, Philadelphia, Penn., assignors to themselves, A. R. WETMORE, New York, and CHARLES C. LATHROP, Delanco, N. J.—*Melting and Smelting Furnace.*—November 28, 1865.—This invention consists of a furnace provided with a passage for the admission of fuel and a door for the admission of ore. A blast pipe passes around the furnace in such a manner that a branch pipe may be carried into said furnace beneath the grate, and at each side of said furnace near the chimney. A vessel is placed at one side of the furnace and communicates with the passage in the chimney.

Claim.—First, the basin H of the furnace, made of the concave form represented, for the purpose specified.

Second, the combination and arrangement of the said concave basin with the slag hole I and tapering hole H.

Third, the arrangement of the inclined bed of the furnace and the blast openings and pipes *n n*.

Fourth, the chimney E, with its cover *d*, and two compartments F and G.

Fifth, the combination of the said chimney and its compartments with the pipe L and vessel K, or their equivalent.

Sixth, the combination and arrangement, substantially as described, of the basin and bed of the furnace, the chimney, and the opening *f*.

No. 51,267.—EDWARD A. RAYMOND, Brooklyn, N. Y., assignor to himself and CHARLES MERRILL & SONS, New York, N. Y.—*Forging Apparatus.*—November 28, 1865.—This invention consists in forming in each end of the piston an annular groove with a rounded bottom, into which a disk or flat ring of leather, struck up in a mould to conform to the shape of the groove, is inserted; the outer edge of the leather being slightly larger in diameter than the piston, but when in the cylinder fitting and conforming thereto. These rings are held in place by a collar formed on the hub of the piston. The stuffing or collar around the piston rod is formed of a similar piece of leather in a corresponding recess in the cylinder head, and held therein by a ring, the inner surface of which and of the other cylinder head are so shaped that by bringing the piston in contact with either, the packing is caused to retain the shape given it when first inserted.

Claim.—First, a cup leather packing for the piston rod of atmospheric hammers, applied as and for the purposes specified.

Second, securing the cup leather within the basin in the cylinder head by the movable ring, as and for the purposes specified.

Third, the annular packing expanders applied at one or both ends of the cylinder, for pressing the cup leathers of the piston to shape, as set forth.

No. 51,268.—JOHN C. REED, assignor to himself and JOSHUA Y. BILLARD, Stamford, Conn.—*Window Blind.*—November 28, 1865.—This invention consists in connecting a self-

adjusting clutch with the slats of a window blind by means of a crank and a pair of gear wheels in such a way that the slats may be opened or closed, or set at any desired angle, without opening the window.

Claim.—First, the combination of the crank L and the bar or rod K with the bevel gear N R and the slats of the window blind, substantially as and for the purpose set forth.

Second, the combination of the self-adjusting clutch T with the bevel gears R N and the casing or frame of the window, substantially as described and for the purpose set forth.

Third, the combination of the coiled spring W with the clutch T and window casing or frame, substantially as described and for the purpose set forth.

No. 51,269.—JOSEPH RIDER, Newark, Ohio, assignor to himself and E. REMINGTON & SONS, Ilion, N. Y.—*Revolving Fire-arm.*—November 28, 1865.—This invention has for one of its objects the conversion of front-loading revolving cylinders into breech-loaders. To this end the invention consists of a shoulder formed at the rear end of a revolving cylinder of the former class, in which shoulder openings are formed, one opposite each of the chambers, for the jaw of the cartridge case extractor to pass through. An additional opening is also made for said jaw to pass through when the cylinder is charged with cartridges, the flanges of which close the openings opposite the chambers. The invention also consists of a guide that allows the pawl to project just far enough to take hold of the ratchet without dropping into the centre bore of the cylinder.

Claim.—First, the groove and flange at the rear of the revolving cylinder, with the openings 1 2 3, &c., cut through said flange, for the jaw of the extractor to work through, substantially as and for the purpose described.

Second, in combination with a pawl for turning a cylinder, a pawl guide, constructed and operating substantially in the manner and for the purpose described.

No. 51,270.—M. L. THOMPSON, assignor to himself and E. L. CHILDS, Brooklyn, N. Y.—*Children's Bed-clothes Retainer.*—November 28, 1865.—The object of this invention is to produce a simple means for retaining the bed-clothes in place over the child in whatever position it may assume, and for this purpose a ring or collar of suitable construction is employed, which is to be placed around the child's neck, and to which the bed-clothes are attached.

Claim.—A ring or collar, adapted to be placed around the neck of the child, and to retain the bed-clothes in place, substantially as described.

No. 51,271.—GEORGE J. WARDWELL, Rutland, Vt., assignor to THE STEAM STONE-CUTTER COMPANY, New York, N. Y.—*Stone-Cutting Machinery.*—November 28, 1865.—This invention consists in the application of a gang of cutters to each side of the frame of the machine, outside the track on which it moves, in such a manner that the cutters may be inclined at any angle without detriment to their efficiency; also in the devices for feeding the machine up to its work at any desired degree of speed; also in the devices for stopping and starting the machine; also in the devices for moving the machine without operating the cutters; and also in the devices for elevating and supporting the gangs of cutters when detached from their working beams.

Claim.—First, so constructing the yoke F2, and applying it to the standard F, that it will admit of the cutters being removed from the machine, or again replaced at pleasure, substantially as described.

Second, the combination of an open yoke F2 with a hinged standard guide F″, substantially in the manner and for the purpose described.

Third, providing for adjusting the cutters together with their guides, and setting them at any desired angle, for the purpose and in the manner substantially as described.

Fourth, the pivoted standard boxes G G, arranged on the sides of the frame A, and adapted for receiving the standards F F′, and operating substantially as described.

Fifth, arranging two gangs of reciprocating cutters upon a frame A, so as to work outside of the track upon which the machine is moved, substantially as described.

Sixth, the application of the windlass J to a stone-cutting machine, for the purpose of lifting and supporting the cutters, substantially in the manner described.

Seventh, the combination of the feed wheels C′ D, shifting pinion B3, and movable arm or lever B2, with the vibrating beams E E, substantially as described.

No. 51,272.—GEORGE J. WARDWELL, Rutland, Vt., assignor to the STEAM STONE CUTTER COMPANY, New York, N. Y.—*Machinery for Cutting Stone.*—November 28, 1865.—This invention consists of a portable steam-engine used in conjunction with a stone-cutting machine in such manner that both are supported independently upon the same track. The engine and cutter are so connected that they may be separated at pleasure.

Claim.—The combination of a feed mechanism, a stone-cutting machine, and a steam-engine, substantially as and for the purpose described.

No. 51,273.—GEORGE J. WARDWELL, Rutland, Vt., assignor to the STEAM STONE CUTTER COMPANY, New York, N. Y.—*Cutter for Stone-channelling Machinery.*—November 28, 1865.—This invention consists in arranging the cutting edges of a gang of chisels in such a manner

that the ridges in the bottom of the channels in the stone left by one set of cutters are chipped off and levelled by another set in the same gang. The cutters are arranged in the gang in such manner that the machine can operate in going backward as well as forward without reversing the cutters. In the same gang is combined a series of transverse cutting edges with one or more pyramidal cutters, for the purpose of facilitating the operation of cutting channels, and reducing to powder the chips therein.

Claim.—First, the combination of one or more diagonal cutting edges, with transverse cutting edges, formed on the ends of bars which are secured together edgewise, so as to form a gang, substantially as described.

Second, the stepped arrangement of the cutters on both sides of a central cutter, substantially as and for the purposes described.

Third, the combination of a pyramidal cutter with transverse and diagonal chisels, substantially as described.

No. 51,274.—CHARLES T. WOODMAN, Boston, Mass., assignor to himself and C. E. WOODMAN, of same place.—*Gauge Cock.*—November 28, 1865.—In this cock the valve consists of a cylindrical roller arranged with its curved surface against the interior curved surface of the case. The object sought to be accomplished by the use of a roller valve instead of a slide valve or common valve plug, is a greater degree of tightness. The cock is operated by steam.

Claim.—The improved cock or faucet, constructed substantially as described, viz., with a roller valve made and applied to a shaft, as explained and arranged so as to operate with the curved inner surface of the case, and with inlet and outlet passages leading therefrom, in the manner substantially as hereinbefore set forth.

No. 51,275.—CHARLES P. ZIMMERMAN, Newark, N. J., assignor to himself and J. P. BROWN, Plainfield, N. J.—*Liquid Cooler.*—November 28, 1865.—This invention consists of a series of chutes placed in an inclined position and communicating with each other through curved aprons. On the under side of the chutes are chambers communicating with each other through pipes. The combination of chutes and chambers is such that the liquid to be cooled is made to run over the former, and at the same time water or other cooling liquid is passed through the latter in an opposite direction, so that the liquid to be cooled is exposed on one side to the influence of the atmosphere and on the other to that of the cooling liquid.

Claim.—The arrangement of a series of chutes A A, and aprons B, in combination with the cooling chambers C, connected with each other by pipes D, and arranged in relation to each other and the chutes A A, substantially in the manner and for the purpose described.

No. 51,276.—JEAN FRANÇOIS AUGUSTE AERTS, Antwerp, Belgium.—*Lubricating Apparatus.*—November 28, 1865; patented in Belgium September 5, 1864.—The nature of this invention is explained by the claim.

Claim.—First, a reversed gutter applied and constructed substantially as described, and operating to prevent water from being projected violently against the upper part of the box, substantially as set forth.

Second, a horseshoe-shaped piece or half dome of metal, in combination with a groove on the axle, the two being located with reference to the upper brass and to each other and acting in combination, substantially as hereinbefore specified.

Third, in combination with a rotating disk elevating fluid above an axle, a packing applied beneath the axle, constructed and operating substantially as described.

No. 51,277.—JOAQUIN FORTUN, Cienfuegos, Cuba.—*Mode of Attaching Stakes to Railroad Cars.*—November 28, 1865.—This invention will be understood by reference to the claim.

Claim.—The application to railroad platform cars of side stakes, so constructed as to turn alongside of the car in one operation, as herein described, thus saving much time.

No. 51,278.—L. P. R. DEMASSY, Paris, France.—*Filtering Press.*—November 28, 1865.—This invention consists of two conical perforated cases, arranged one within the other in such a manner that they may be moved over a plate attached to the plunger. The plunger is surrounded by a chest, into which water may be forced, pressing the said plate upward, which brings the outer and inner cases together. The material to be pressed is placed in the space between the two casings; the inner casing may be covered with wire gauze and fibrous material if desired.

Claim.—First, the combination of the inner and outer conical perforated casings F and G, constructed and operating substantially as described, for the purpose specified.

Second, the combination of the said inner and outer perforated casings with lining or covering of wire cloth, or textile fabric.

Third, the combination of the said inner and outer perforated casings with the hydraulic press and rails D D, the whole being arranged and operating substantially as and for the purpose herein set forth.

No. 51,279.—JOHN R. JOHNSON and JOHN A. HARRISON, London, England.—*Apparatus for taking Photographic Panoramic Views.*—November 28, 1865; patented in England September 5, 1862.—This invention consists—1st, of an improved construction of the parts of the flat plate camera for securing equable motion and free vibration; 2d, of a new mode of obtaining the relative motions of the lens and sensitive plate, directly by mechanical means; 3d, of an improvement in the gearing when working both forms of camera; 4th, in the application of a spring or weight to give motion to such cameras, and of means for regulating such motion; 5th, of an expanding diaphragm to regulate the "exposure" in cameras at an invariable rate; 6th, of an expanding diaphragm to be placed between the lens and sensitive plate by means of which "sky and cloud" effects may be obtained.

Claim.—First, the improved construction and arrangement of the parts of the flat plate camera, so that their motions are smooth and equable, and free from vibration, and so that the whole apparatus is rendered more compact and portable than those previously suggested.

Second, the new mode or modes of obtaining the relative motions of the lens and sensitive plate, such motion being obtained directly by mechanical means, or by appliances constructed mechanically, instead of by guide curves or grooves formed by trial, as has heretofore been proposed to be done.

Third, the improvement in the gearing when working both forms of camera.

Fourth, the application of a spring or weight to give motion to such cameras, and of means for regulating such motion to such cameras, and of means for regulating such motion both at variable and invariable rates.

Fifth, the application of an expanding diaphragm to regulate the exposure in cameras moving at an invariable rate.

Sixth, the expanding diaphragm placed between the lens and the sensitive plate by means of which sky and cloud effects may be obtained, and by which the amount of exposure may be regulated.

Seventh, the general mechanical arrangements by which these improvements are carried into effect in the different forms of cameras described.

No. 51,280.—RICHARD JONES, London, England.—*Method of Preserving Animal and Vegetable Substances.*—November 28, 1865.—This invention consists in displacing air from vessels containing animal or vegetable substances, by the introduction into such vessels of an inert fluid, such as water or oil, and then displacing such fluid by the introduction of gases, such as nitrogen, carbonic acid gas, &c.

Claim.—The herein described apparatus and method of preserving animal substances, by displacing air from the vessel containing the substance to be preserved, by the introduction therein of an inert fluid such as water or oil, and then the displacement of such fluid by the introduction of nitrogen gas or gases, having an affinity for oxygen, substantially as explained.

No. 51,281.—JAMES THOMPSON, Bilston, England.—*Process of making Gun Barrels, &c., from Bessemer Steel.*—November 28, 1865.—This invention consists in heating a sufficient quantity of the metal to form one or more gun barrels, and while in that condition hammering, swaging, rolling, or otherwise working it to elongate and solidify it. The metal is then divided into lumps for single barrels, and these lumps are pierced by punching or drilling. They are then again heated and a mandrel is introduced through the perforation, and the lump is elongated by hammering, &c.

Claim.—The making of seamless gun barrels, ordnance, or other like tubular bodies, of Bessemer's homogeneous metal or steel, in the manner herein described.

No. 51,282.—S. F. AMES, Stanford, Ky.—*Saw-Mill.*—December 5, 1865.—The object of this invention is to saw logs into clapboards or rails, radially by a circular saw, and it consists in hanging the log centrally at the ends by means of dogs, and revolving it by means of worm wheels or screws, to set it to the saw. It also consists of a combination of gear wheels, so that as one pinion is in gear with the driver for the carriage it will feed the log to the saw, and by operating a lever the pinion is thrown out of gear, and another pinion geared to the first is put in gear with the carriage driving wheel, which reverses the direction of the carriage and drives it back.

Claim.—First, wheel D, with its movable shaft and lever K, with wheels *a* and *b*, in combination with wheel E, when arranged as described to move the log carriage of a saw-mill alternately forward and backward as described.

Second, worm shaft H, with its hand wheel W, wheel I, shaft J, and dog *g*, when combined and operating as described, to adjust or turn and hold securely a log while it is being cut radially as described.

No. 51,283.—LORING J. BAKER, East Machias, Me.—*Animal Trap.*—December 5, 1865.—In this invention a box is provided at its centre with an oscillating platform, to which is rigidly attached an upright leaf or partition of the same width, which has its openings for the entrance of the animal so arranged that when it depresses the tilting platform by its weight, the said attached leaf or partition is thereby swung past said opening, leaving the opposite side of the platform in like manner open to admit the next visitor. The entrapped animal escapes on either side into a closed apartment.

Claim.—The rocking platform A, and its partition B, which by its operation opens the aperture alternately to either side, as described, making a perpetual trap.

No. 51,284.—HENRY BARAGWANATH and MARTIN VAN WISKER, New York, N. Y.—*Fire Annihilator.*—December 5, 1865.—This invention consists in the use of water saturated with carbonic acid gas for extinguishing fires. In carrying out the invention an apparatus is used which consists of a metallic vessel containing acidulated water, and another vessel within said vessel containing bicarbonate of soda. The vessel is provided with a valve, operated by a rod, so that the soda in the vessel may be allowed to drop into the acidulated water in the vessel. The water is discharged through a pipe trough.

Claim.—Subduing and extinguishing fire by means of aerated water produced and applied substantially in the manner and for the purpose herein set forth.

No. 51,285.—FREDERICK C. BEACH, Stratford, Conn.—*Combined Fork and Sharpener.*—December 5, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The combination with a knife or fork or other cutlery of a sharpening device, substantially as described.

No. 51,286.—JOHN T. BEVER, Bethel, Ill.—*Cultivator.*—December 5, 1865.—The frame of this machine is of a triangular shape, and hinged at each corner, so that by removing a pin at one of the inner corners the triangle can be reversed or doubled around, so as to reverse the position of the shares. Thus, by a simple movement the rigid teeth can be reversed.

Claim.—First, the inverting triangle frame A A A, constructed with free working joints or bolts *b b b b*, or their equivalents, for the purpose of reversing the order of the turning ploughs *f f f f*, substantially as and for the purpose set forth.

Second, the double hook or clevis *d d*, with cross-bar or flanges *k k*, or their equivalent, for the purposes herein specified.

Third, the handles *c c*, in combination with the inverting triangle frame A A A, as and for the purposes herein set forth.

No. 51,287.—SOLON BINGHAM, Troy, N. Y.—*Horse Rake.*—December 5, 1865.—The springs which hold the teeth to their work are formed of several thin layers of wood. Horizontal arms are attached to the upper ends of the teeth which rest upon said springs, and are held in place by a bar passing across them. The rake is mounted upon arms pivoted to the frame, and provided with large wooden springs which hold them to the ground, but allow the implement to conform to the irregularities thereof.

Claim.—First, the employment or use in a horse rake of wooden springs D, formed of a series of layers, placed one over the other, in connection with teeth E, having bars F attached to their upper ends to rest or bear upon said springs, and retained thereon by a strip G, or its equivalent, substantially as described.

Second, mounting the rake on bars H H, connected with springs I I, to operate in the manner substantially as and for the purpose set forth.

No. 51,288.—W. BIRD and JOSEPH T. BIRD, Flemington, N. J.—*Dried Beef and Vegetable Cutter.*—December 5, 1865.—This invention consists of a board to which is affixed a cutter or knife that is adjusted by screws and springs, and the whole can be secured to the corner of a table by clamp screws attached to two of the legs.

Claim.—The relative arrangement of the knife B, springs *b b*, and set screws *c c*, the ends of the knife being interposed between the set screws and spring, and the whole employed in connection with the table A, and strips *c c*, in the manner and for the purposes specified.

No. 51,289.—T. S. BLAIR, Pittsburg, Penn.—*Furnace for Converting Bars into Steel.*—December 5, 1865.—This invention consists of an oven surrounded by flues, and provided with smoke stacks; flues communicate with fire-boxes near the top of the oven, and a flue communicates with an ash-pit near the bottom of said oven.

Claim.—First, the fire-boxes H H H, &c.

Second, the flues L L L, and the flues N N N, alternately arranged on the sides of the oven.

Third, the oven D, heated by fire-boxes H H, &c., and alternate descending and ascending flues, as described, and for the purpose specified.

No. 51,290.—EDMUND BLUNT, Brooklyn, N. Y.—*Liquid Compass.*—December 5, 1865.—This invention consists in relieving the friction of the needle on the pivot by a central float, so arranged that the centre of floatation shall be above the centre of gravity of the needle, and thus preserve a stable equilibrium for the needle. The case which contains the liquid is made of glass of a spherical form so as to act as a lens.

Claim.—First, the combination of the needle of the compass with a central float, and with a vessel to contain a liquid, substantially as before set forth.

Second, the combination in a compass of the following instrumentalities, viz: the needle, central float, and vessel, having a spherical form internally, substantially as before set forth.

Third, the combination in a compass of the following instrumentalities, viz: the needle, central float, and vessel, a portion, at least, of which is of a lens form, substantially as before set forth.

Fourth, the combination in a compass of the following instrumentalities, viz: the needle, central float, metal vessel, and supplemental vessel of variable capacity, substantially as before set forth.

No. 51,291.—FELIX BROWN, New York, N. Y.—*Steam Pump.*—December 5, 1865.—The object of this invention is the introduction of a steam pump which shall be less liable to derangement, more reliable in capacity, and less difficult of access for repairs than the pumps of similar purpose heretofore introduced; it consists in the arrangement of two or more plungers on the opposite ends of the steam cylinder; the plungers being the ends of the piston rod, combined with the steam cylinder and pump barrels; the combination of a rocking toe with spring pawls, hook slide, piston rod, and steam valve of the cylinder.

Claim.—First, a steam pump having two or more plungers arranged on the opposite ends of the steam cylinder, substantially as and for the purpose set forth.

Second, the plungers D, being the ends of the piston rod C, in combination with the steam cylinder A, and pump barrels E, constructed and operating substantially as and for the purpose described.

Third, the rocking toe *d* in combination with the spring pawls *h' h'*, hook slide *e*, piston rod C, and with the steam valve of the cylinder A, constructed and operating substantially as and for the purpose set forth.

No. 51,292.—ESEK BUSSEY, Troy, N. Y.—*Cooking Stove.*—December 5, 1865.—In this invention a culinary boiler is so arranged in the exit flue at one end of the stove that it forms a part of the lateral casing on the outer side of the fire flue, and below the mouth of the exit flue.

Claim.—The arrangement in a cooking stove of a culinary boiler and an exit passage for the gases of combustion, both at one end of the stove, and so that the boiler forms a part of the lateral casing on the outer side of a fire flue or fire flues in the end of the stove below the said exit passage, substantially as herein described.

No. 51,293.—HENRY CHAPMAN, Catawissa, Penn.—*Paper Machinery.*—December 5, 1865.—This invention consists in attaching to the wet press rollers of paper machinery a trough open along its side in contact with the roller, in which trough sal soda or other alkaline solution is used.

Claim.—First, the trough C, arranged as and for the purpose described.

Second, the use of sal soda or other alkaline solution or solutions, for the purpose specified.

No. 51,294.—RUSSELL COBB, Hadley, Mich.—*Means for Loading Hay.*—December 5, —1865.—This invention consists in the employment of inclined planes hinged to the wagon rack, in combination with tackle for the purpose of rolling up bundles of hay. The rack is divided into several compartments, by means of movable partitions.

Claim.—First, the inclined planes C, in combination with the tackle composed of the rope E, and pulley D, applied to the rack A of a wagon, substantially as and for the purpose herein set forth.

Second, the employment and use of partitions G, when used in connection with the rack A, substantially as and for the purpose specified.

No. 51,295.—LEVI H. COLBORN, Chicago, Ill.—*Screw Propeller.*—December 5, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—A screw blade having a central open space around its axis of revolution, substantially as and for the purpose herein specified.

Also, arranging the face of a screw blade, having a central space around its axis of revolution, so that its outer edge in revolving shall be in advance of the radial lines extending from its inner edge, substantially as herein described and for the purpose set forth.

Also, casting or forming each blade with its own hub complete in itself, so that it may be attached to the propeller shaft, and replaced independently of the other blade or blades, substantially as herein described.

No. 51,296.—GILES H. COLLINS, Wayne, Mich.—*Weather Strips for Doors.*—December 5, 1865.—This invention is designed as an improvement on a former patent to the same inventor, and it consists of an auxiliary spring, in combination with a weather strip, catch, sliding plate, &c.

Claim.—An auxiliary spring K, in combination with a weather strip A, catch *s*, and sliding plate E, all substantially in the manner and for the purpose herein set forth.

No. 51,297.—SAMUEL A. CUMMINGS, Middleton, Mass.—*Knife Blade Holder.*—December 5, 1865.—This invention consists of a knife which is held and supported not only on its two opposite sides, but may be grasped at its opposite edges so as to support the blade on its opposite sides.

Claim.—The improved shoe knife blade holder, as made with its jaws C C to grasp the opposite edges of the blade, and to support the said blade on its opposite sides, as specified.

No. 51,298.—BARTHOLOMEW DE VONT, Harrisburg, Penn.—*Block for Car Brakes.*—December 5, 1865.—This invention consists in the mode of fastening the liner to the block, and in the manner of suspending the brake, so as to prevent the liner from coming off, and to facilitate its removal and replacement.

Claim.—The form and construction of the brake block and liner, together with the form of the hanger, and the mode of securing the liner to prevent its coming off and to expedite its removal and replacement, substantially as set forth and described.

No. 51,299.—ALBERT M. DEXTER, Philadelphia, Penn.—*Neck-tie.*—December 5, 1865.—In this invention a band of metal or other rigid material is bifurcated at one end, and then bent double in the middle, when the square or round end is attached to the neck-tie, or its plate, and the bifurcated end is made to button into the shirt button.

Claim.—First, the hook D, in combination with a neck-tie, substantially as herein described for the purpose herein set forth.

Second, the plate C, in combination with the hook, substantially as herein described and for the purpose herein specified.

No. 51,300.—CASPER DREHER, Detroit, Mich.—*Bolt Cutter.*—December 5, 1865.—In this invention a lever is provided at one end with ways, in which the cutters are placed with the edges pointed toward each other, one of them sliding up to and from the other; behind the movable cutter an opening is made, in which another lever is pivoted, having an eccentrically-shaped end, which on being vibrated forces the movable cutter up toward the stationary one; the reverse movement is effected by springs attached to the cutter.

Claim.—The bolt cutter herein described, consisting of the frame *a*, cam lever *a y*, guide plates *g h*, cutter bar *h'*, adjustable cutter *s*, and screw *u*, all constructed, arranged, and operating substantially as and for the purpose set forth.

No. 51,301.—HENRY L. FRAILEY, Lancaster, Penn.—*Mowing Machine.*—December 5, 1865.—This invention relates to an improvement in the track clearer, and consists in making it in the form of the curved mouldboard of a plough, and providing it with the usual separating rods upon its inner face, and with an adjustable rod upon its outer face, for raising the uncut fallen grain, and more effectually marking the line of separation between the cut and uncut grain.

Claim.—The adjustable outside rod C, in combination with the curved dividing mouldboard, constructed and operating in the manner and for the purpose specified.

No. 51,302.—BENJAMIN FRAZEE, Belleville, N. J.—*Pump.*—December 5, 1865.—In this invention a hollow piston, carrying a gooseneck delivery spout, is operated by ordinary means; the piston has a ball valve near the bottom, surrounded by annular valves, and having small channels opening thence into the interior of the chamber, to lubricate the surfaces in contact. A ball valve controls the influx at the base of the cylinder.

Claim.—First, the hollow or tubular piston E within the cylinder B, and provided with a tubular piston rod G, and having a valve F in its lower end opening upward, the said cylinder B being provided with a valve D at its lower end, all arranged to operate in the manner substantially as set forth.

Second, the series of grooves *a*, made circumferentially in the exterior of the piston, and communicating with the interior of the piston by one or more openings *b*, substantially as described.

No. 51,303.—WILLIAM T. FRY, Philadelphia, Penn.—*Flask.*—December 5, 1865.—This invention consists of a flask, provided with an ordinary screw cap. At one side of the neck of said flask is an aperture provided with a cap, said cap having an aperture in one side. When any liquid is to be poured from the aperture, it rises above the screw threads, which allows air to enter the flask, and insures a free exit of the contents.

Claim.—The combination, substantially as described, of the screw tube B, the screw cap C, and its opening or openings *c*, with a bottle or flask, for the purpose specified.

No. 51,304.—A. C. GALLAHUE, Dover Plains, N. Y.—*Washing Machine.*—December 5, 1865.—This invention consists in the arrangement of a swinging pressure segment and a fluted roller, made to operate by a lever, crank, and spring, moved by a crank shaft.

Claim.—The fluted or corrugated roller B, in combination with the swinging segment C, when the latter is attached to, or suspended from, a hinged frame D connected with a spring F through the medium of a treadle E, substantially in the manner as and for the purpose set forth.

Also, operating the swinging segment C through the medium of the pendant *d*, rod *e*, and crank *f* on the shaft *g* at the front end of the suds-box A, substantially as described.

No. 51,305.—GILBERT GIBSON, Port Richmond, N. Y.—*Anchor Tripper.*—December 5, 1865.—This invention consists in so forming or arranging upon the upper edge and inner side of the bulwarks of a vessel, and at or near the bow, a resting surface or support for the fluke of the anchor, that when desired, by simply releasing or unfastening the said support, the anchor will readily fall and drop by its own weight.

Claim.—The combination of the grooved and bent lever *g h q*, and detaining lever *p*, when constructed and arranged to operate as specified.

No. 51,306.—B. A. GRANT, Mount Pleasant, Iowa.—*Cultivator.*—December 5, 1865.—This invention relates to the employment of curved elastic beams, to which the ploughshares are attached, so as to allow the shares to yield when brought in contact with an obstruction, and thus avoid breaking the said shares.

Claim.—First, the combination and arrangement of the plough beams J, the arms K, the cross-bar L, vertical rods M, and loops *m*, operating as and for the purposes specified.

Second, the combination of the plough beam I J, clasps *a*, arms K, cross-bar L, uprights M, loops *m*, uprights P, rod N, arms *n*, all arranged and operating as and for the purposes specified.

No. 51,307.—JOHN WILLIS GRIFFITHS, Brooklyn, N. Y.—*Forming the Stem and Dead Wood of Ships.*—December 5, 1865.—This invention consists in forming the stem and dead wood of ships so as to project longitudinally and diagonally forward of the "wooden ends" of the planking, the projecting parts thereof being made to conform to the lines of the vessel's model.

Claim.—The construction of the stems and stern posts of ships and other vessels of the same timbers which form their respective dead woods by projecting dead woods longitudinally and diagonally beyond the wooden ends of the planking, and imbedding the wooden end of the planking in a rabbet cut in the dead woods, substantially as shown and described.

No. 51,308.—JOHN WILLIS GRIFFITHS, Brooklyn, N. Y.—*Ship Building.*—December 5, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, in the hull frames of wooden vessels, making the timbers and beams of the same dimensions in siding-way, substantially as shown and described.

Second, placing the hanging knees on the sides of the timbers and beams, and in the interstices between the timbers and between the beams, substantially as shown and described.

Third, the beam supporters E, extending from the upper clamp strake to the beam, substantially as shown and described.

Fourth, the frame, consisting of the beams, knees, frame timbers, clamp strakes and beam supporters, in combination, when constructed and put together, substantially as herein described.

No. 51,309.—LOUIS GRONEWEG, JOSEPH H. PULTE, and CHARLES T. JONES, Cincinnati, Ohio.—*Roofing Composition.*—December 5, 1865.—This invention consists of a composition of clay, pulverized quick lime, and coal tar.

Claim.—The roofing composition, composed and applied in the manner described, and the application of the mucilaginous mixture to harden and polish the same.

No. 51,310.—PALMER HAMILTON, Detroit, Mich.—*Saw-mill.*—December 5, 1865.—The object of this invention is to give to a reciprocating saw a rocking or rolling motion, and it consists in hanging the saw to cross-heads working in curved guides at the upper end, and straight guides at the lower end, the saw being pivoted to the pitman below the lower cross-head, which gives to the saw the requisite motion.

Claim.—Giving to the saw in its downward movement a rocking or rolling motion, by means of the combination of the cross-head working in the curved guides at the upper end of the saw, the lower end of which is attached to a cross-head working in straight guides, and pivoted to the pitman below the saw, with the crank pin, substantially as described.

No. 51,311.—J. W. HARPER, Cleveland, Ohio.—*Camera Stand.*—December 5, 1865.—This invention relates to a method of adjusting the camera stand horizontally and vertically, and it consists of a rectangular frame fitting in guides on the table, so as to allow it to slide vertically. From the sides of the moving frame extend lugs, to which is hung a platform, arranged so as to be inclined either way, and secured at any inclination by means of a slotted segment. The platform is moved upward by means of a ratchet wheel attached to the main frame, and having attached to it a strap.

Claim.—The frame H, adjustable platform L, and segment N, in combination with the ratchet wheel D and straps J, when operating conjointly as and for the purpose set forth.

No. 51,312.—SAMUEL HARRINGTON, Baltimore, Md.—*Scroll Saw.*—December 5, 1865.—This invention consists in giving a reciprocating motion to a scroll saw, by means of two cranks on opposite sides of a driving shaft, and applied to two horizontal pitmen jointed by sliding rods, having an attachment to the two ends of the saw by means of a cord passing

over pulleys, the upper pulley being fixed in a movable frame that can be raised or lowered by a cam lever.

Claim.—First, operating the saw S by means of the cord *c* passing over the pulleys *o o'*, in combination with the sliding rods T and pitman C, attached to crank wrists *e e'*, arranged as shown and described.

Second, regulating the tension of the saw and cords by means of the movable frame *m*, lever F, and segment E, arranged to operate substantially as and for the purpose set forth.

No. 51,313.—GILES M. HARRIS, Elmira, N. Y.—*Washing Machine.*—December 5, 1865.—This invention consists in the arrangement of a concave overhanging slat bed, a convex slat rubber, nearly parallel in position with and extending to nearly the same height as the said bed, and of a concave portion of the bottom of the machine.

Claim.—The combination and arrangement of the concave overhanging slat bed B, the concave portion K of the bottom at the foot of the said bed, and the convex slat rubber C, substantially as and for the purpose herein specified.

No. 51,314.—WILLIAM M. HENDERSON, Baltimore, Md.—*Valve for Steam Engines.*—December 5, 1865.—This invention consists in the arrangement of the valve and passages for the induction and eduction of steam to the end of the piston connected to the valve, for the purpose of completing the stroke thereof after the tappet on the piston rod has ceased to act.

Claim.—First, the arrangement of the valve *c* with the steam and exhaust ports and passages, as therein set forth.

Second, the arrangement of the passages V V' in the valve, with the passages X X' in the valve seat, when operating substantially as and for the purposes herein described.

No. 51,315.—DAVID HERMAN, Bigler, Penn.—*Beehive.*—December 5, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, the sun boxes D2 D2, with slides H and gauze slides J, in combination with the double entrance *a* and *b*.

Second, the construction and arrangement of the boxes A A', feed box F, and slides *d* and B B, as described.

No. 51,316.—EMIL HUBNER and CHARLES HALL, New York, N. Y.—*Nut Machine.*—December 5, 1865.—This machine is too complicated to admit of a brief description; its nature will be understood by reference to the claim and engraving.

Claim.—First, the combination of the cutting devices of the nut machine and a transferring carriage to move the nut blank with a plunger, which moves the blank from the cutters and delivers it to the transferring carriage, constructed and arranged as set forth.

Second, the combination of the cutters and snapping and punching devices with a recessed transferring carriage, to carry the nut blank from the cutters and deliver it to the snapping and punching devices, constructed and arranged as set forth.

Third, the combination of the transferring carriage with the transferring spring nippers, the two operating substantially as set forth.

Fourth, the combination of the movable concave snapping-tool support for the flat side of the nut blank, and punch moving through said support, so that it will punch from the side opposite that at which the snapping tool operates, substantially as set forth.

Fifth, the combination of the forging mandrel with the devices for turning it, and with the former and rest therefor, substantially as described.

Sixth, the combination of the forging mandrel and spring, substantially as set forth.

Seventh, the combination of the hammer with tappets of different lengths and with an instrument to turn the nut blank upon its flat side, substantially as set forth.

Eighth, the combination of a cam ring with a movable tappet and with a movable check to clamp the tappet in its place, substantially as set forth.

No. 51,317.—JAMES B. HODGSKIN, New York, N. Y.—*Paint.*—December 5, 1865.—This invention consists in the use of a composition of linseed oil, India-rubber cement, and benzine, as a vehicle for paint.

Claim.—As a new article of manufacture the paint made as described, by the combination of pigments with the composition hereinbefore mentioned.

No. 51,318.—GEORGE W. HOFFMAN, Harrisburg, Penn.—*Broom Head.*—December 5, 1865.—This invention consists in constructing a clamp which is to hold the broom corn, and through which the handle passes, and all secured by bolts.

Claim.—The clamp A A, composed of two symmetrical halves having clasping fingers *a' a'*, constructed and operating substantially as described, for the purpose set forth.

No. 51,319.—MICHAEL HOWARD, Virginia City, Nevada.—*Hair Restorative.*—December 5, 1865.—This invention consists of two compositions, the first consisting of rain-water, sulphur, spirits of camphor, alcohol, salt, ammonia, and oil of rosemary. The second composition consists of rain-water, leaves of nut pine and the buds, pepper grass, green mustard leaves, vegetable tar, ground mustard, salt, and alcohol.

Claim.—The combination of recipes No. 1 and No. 2, substantially as stated.

No. 51,320.—THOMAS M. HILL, Eaton, Ohio.—*Churn.*—December 5, 1865.—This invention consists of an exterior horizontally revolving dasher and an interior vertically reciprocating dasher acting in conjunction with each other, under the impulse derived from the revolving driving wheel.

Claim.—Suspending the rotary and reciprocating dashers in the churn, when combined substantially as described.

No. 51,321.—W. HENDRICK, New York, N. Y.—*Fan Blower.*—December 5, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, a fan blower in which the air is taken on the periphery and discharged on the periphery, the two parts being at right angles to the periphery and to each other, substantially in the manner and for the purposes set forth.

Second, as combined and arranged therewith, the case A, with an annular cylindrical channel *c* and contraction *d*, in combination with fans *e*, which fit the shape of the case and fill the annular channel and the contraction, substantially as and for the purposes described.

Third, in combination therewith, the spider D adjustable on the case A, substantially as and for the purpose set forth.

No. 51,322.—WATSON KING, Springfield, Ill.—*Horse Rake.*—December 5, 1865.—This invention consists in constructing the axle with crank arms, in connection with a vibrating clearer, so connected to the axle and thill by jointed attachments that it is operated by turning the axle forward, and also in the method of constructing and attaching the teeth to the axle.

Claim.—First, the combination of the crank arms *a a* with the axle A, wheels B, bearings *b*, thills C, teeth H, clearing frame I, joint *l*, and link *m*, all as specified.

Second, the springs *g* and tapering loops *i*, formed upon the but ends of the teeth, and employed in connection with tapering sockets *a* and keys *h*, as and for the purposes set forth.

No. 51,323.—WILLIAM J. KREHNS, Brooklyn, N. Y.—*Photographic Printing Frame for Porcelain or Glass Pictures.*—December 5, 1865.—This invention consists of a slot on the side of the frame to admit a projection on the end of the small part of the lid, so that when the same is pressed on the negative will be kept in its place, and the lid may thus be raised for the purpose of examining the print and closed again, with both the negative and impression in the same position.

Claim.—The slot A A on the side of the frame admitting the projection A′ A′ on the end of the small part of the lid, and by which the negative is securely retained in a permanent position.

No. 51,324.—T. T. S. LAIDLEY, Springfield, Mass.—*Priming Metallic Cartridges.*—December 5, 1865.—In this invention the cartridge is primed by means of an ordinary percussion cap, supported by an anvil or stem resting against the base of the ball, and kept in its central position by lateral projections or wings in contact with the sides of the cartridge case, but not attached to either the ball or the case.

Claim.—The combination of an anvil A with the cartridge case of a primed cartridge, the said anvil, not attached to the case, receiving the percussion cap or priming on one end, the other end resting firmly against the projectile, and of such shape that when inserted it takes a central position, and cannot be blown out of the case, which has been tapered or contracted at its forward end; the whole as above described and for the purpose specified.

No. 51,325.—O. B. LATHAM, Seneca Falls, N. Y.—*Grapple Tongs for Oil Wells.*—December 5, 1865.—This invention consists of a combination of devices for the purpose of extracting broken tools from artesian wells.

Claim.—First, the application of the levers C C to the handles B B, and in combination therewith, in the manner and for the purpose described.

Second, making the levers C C adjustable upon the handles B B, in the manner and for the purposes described.

Third, the combination of the shank A with the levers C C and the bolt D, passing through either of the pair of holes *o o o*, for regulating the movement of the jaws, in the manner described.

Fourth, the fangs *f f*, constructed and applied as described, in combination with the jaws.

Fifth, the spur E in combination with the jaws, for the purposes and operating as described.

No. 51,326.—JOSEPH LEFFEL, Springfield, Ohio.—*Combined Knife and Cane Stripper.*—December 5, 1865.—This invention consists in attaching to the blade of a knife by means of a screw a clamp having an eccentric motion thereon, with a spring attached also to the knife, whereby the clamp is made to expand or contract as the stalk goes through and is released therefrom, and can be used for the double purpose of stripping and cutting while the stalk is standing in the field.

Claim.—The combination of a clamp and spring with the blade of the knife, the said

clamp having an eccentric motion on the screw, and its fore part forming an angle with the back of the blade, for the uses and purposes herein described.

No. 51,327.—SAMUEL P. LEGG, Springfield, Mass.—*Die for Shaping and Forging Pistol Frames.*—December 5, 1865.—This invention consists in the particular construction and arrangement of dies in two sets or pairs, by means of which a pistol frame may be forged and properly shaped during one heating of the material, and with only two blows of a drop hammer.

Claim.—The dies constructed as herein described, and for the purpose specified.

No. 51,328.—REMBRANDT LOCKWOOD, Brooklyn, N. Y.—*Bridge.*—December 5, 1865.—This invention consists in combining a number of open boxes, of wrought or cast iron, with bands or rods of wrought iron, keyed or bolted in such a manner as to distribute the strain over the whole bridge, said boxes being filled with concrete.

Claim.—The use and arrangement of wrought or cast-iron boxes, combined together with bands or rods of wrought iron, fastened with keys or bolts, and filling the said boxes with concrete or masonry, in the manner above described.

No. 51,329.—SYDNEY MALTBY, Dayton, Ohio, and BARTON PICKERING, Milton, Ohio.—*Balanced Plug Valve.*—December 5, 1865.—This invention consists of a plug valve with its arrangement of apertures, placed within a bush having corresponding apertures, and which is enclosed by the valve vent. The openings are so arranged that the steam presses on opposite portions of the valve for the purpose of relieving it from undue friction. The valve is operated by means of a rock-shaft, secured in one end of the plug, while its other end is held in position by a nut screwed upon the outer end of the bush, within which the valve works. Through the centre of this rock-shaft extends a rod which is operated upon by a set screw in the extreme outer end of the shaft, by which it is so adjusted as to prevent the plug valve from being forced into the bush, by which means the possibility of abrasion of the contact surfaces is prevented.

Claim.—First, the valve C, with the attached piece 12, the orifices 1 2 3 and 4, the post 5, Fig. 2, cavity 6, cavity opposite of face 9, orifice S, opening 16, and face 9, constructed substantially as described and arranged with reference to the bush B, and its openings, for the purposes set forth.

Second, the bush or casing B, constructed and arranged substantially as described, and for the purpose specified.

Third, the rock-shaft E, constructed and arranged substantially as described, and for the purposes set forth.

Fourth, the cap D, having an orifice arranged with reference to the bush B, substantially as described, and for the purposes specified.

Fifth, the chamber formed by the end of valve C, the end of bush B, and cap D, substantially as described and for the purpose specified.

Sixth, the metallic adjusting rod *a*, Fig. 3, arranged to hold a plug valve in the seat, and adjust it by the expansion and contraction of the rod to prevent the valve being damaged.

No. 51,330.—A. S. MARKHAM, Bushnell, Illinois.—*Car Coupling.*—December 5, 1865.—This invention consists in a compound lever so arranged that the car can be uncoupled from the platform, or from the ground at the side of the car.

Claim.—The drop-hook B in the draw-head A, in combination with the levers D G connected to the hook, and also connected together relatively with each other, substantially as and for the purpose herein set forth.

No. 51,331.—F. MARQUARD, Rahway, N. J.—*Manufacture of White Rubber.*—December 5, 1865.—This invention consists in treating a solution of India-rubber with ammonia instead of chlorine gas, and mixing with the rubber thus prepared phosphate of lime.

Claim.—The product obtained by the action of ammonia gas on the action of gums, such as India-rubber or gutta-percha, when said gums are treated according to the process herein described, or according to any equivalent process which will produce a like result.

Also, mixing the product obtained by the above process with phosphate of lime, substantially as and for the purpose set forth.

No. 51,332.—F. MARQUARD, Rahway, N. J.—*Manufacture of White Rubber.*—December 5, 1865.—This invention consists in the use of hot water instead of alcohol for washing the rubber after treatment with chlorine, and in the use of phosphate of lime for hardening the rubber thus prepared.

Claim.—First, substituting hot water for alcohol in the process of washing India-rubber or allied gums previously treated with chlorine, as and for the purpose described.

Second, subjecting the product obtained by treating India-rubber or allied gums with chlorine to a distilling process, either simultaneously while the same is being washed, or after the washing process is completed, substantially as and for the purpose set forth.

Third, the use of phosphate of lime in combination with the product obtained by the process above specified, for the purpose set forth.

No. 51,333.—HARRY MARSDEN and THOMAS HOWARD BLAMIRES, Huddersfield, Eng.—*Carding Engine.*—December 5, 1865.—This invention relates to a means of preparing wool, &c., for feeding carding engines, a travelling apron being applied to the discharging end of a scribbler or first carding engine, and delivering the sheet to a traversing carriage which runs sidewise under the apron and intermittently winds the layers by frictional contact upon bobbins; these rolls are then transferred to the feeding end of the next carder, and unwound by frictional contact upon drums or a slack endless apron.

Claim.—First, the combination of the doffer cylinder B, creeper or travelling apron C, and rollers Q Q′ Q2 and Q3, with the reciprocating or travelling carriage, by which a web of any desired thickness and length may be made, substantially as described for the purpose set forth.

Second, the combination of the creeper or travelling apron M, with the rollers H3 and H4, so geared to an increased motion that they may be made to draw out the web while winding it, as herein set forth.

Third, the combination, with the delivery end of a scribbler, of a reciprocating or traversing carriage carrying a creeper or endless travelling apron *m*, made to extend under the lap or roll of wood or other fibre T, and wind it by friction, substantially as described.

Fourth, the combination with a carding engine of an endless travelling apron or creeper, by which a lap or roll of wool or other fibre is unrolled and fed to said engine by friction, substantially as herein described.

No. 51,334.—JAMES H. MATHER, Lawrenceville, Penn.—*Sieve for Separating Oats from Wheat.*—December 5, 1865.—This invention consists of a double sieve, one plane and the other concave, the object of which is to separate oats from wheat; the oats passing over the upper, and the wheat passing through the lower sieve, and are thus separated.

Claim.—The combination and arrangement of the concave sieve B with the upper plane sieve A, substantially as and for the purpose herein specified.

No. 51,335.—ELISHA MATTESON, South Brooklyn, N. Y.—*Rotary Engine.*—December 5, 1865.—The object of this invention is to use steam in a rotary engine with more economy than heretofore. It consists in the arrangement of the shaft and wheels with the cylinder, said cylinder being provided with one or more partitions, whereby the steam is allowed to act successively.

Claim.—The arrangement of the shaft C and the wheels E E′ with the box or cylinder A, said cylinder being provided with one or more partitions, whereby two or more chambers are formed in which the steam from the wheels is used more than once against partially compressed steam, as and for the purpose herein specified.

No. 51,336.—THEOPHILUS MAYHEW, New York, N. Y.—*Rock Drill.*—December 5, 1865.—This invention consists of two cylinders, one above the other. The top of the upper one terminates in a ring, to which is fastened the drill rope. From the lower end, connected by a bail, projects a piston, having on its lower half a frame and two racks, which fit into the lower cylinder and operate gear wheels therein, which in turn operate the rotary drill that projects from the lower end of the cylinder. The lower cylinder remains stationary or follows the drill downward, and by means of the rope the top cylinder, which acts as a weight, is moved up and down, and through its piston and racks operates the drill.

Claim.—Imparting to the drill D one or more rapid revolutions by means of the racks *r r* and gearing *a a* N P, when operated by the upward and downward motion of the weight W, substantially as and for the purposes set forth.

No. 51,337.—CHARLES C. MOORE, New York, N. Y.—*Blotter.*—December 5, 1865.—This invention will be fully understood by reference to the claim and engraving.

Claim.—Two rounded, oval, or flat plates A B of any suitable material, secured together by the knob *c c*, or its equivalent, substantially as herein described and for the purpose specified.

No. 51,338.—H. W. MOORE, Bridgeport, Conn.—*Device for Annealing Car Wheels.*—December 5, 1865.—This invention consists in removing the wheels from the moulds while hot to a vertical cylindrical pit, piling one upon another with rings between, placed so as to separate the chilled part from that part desired to be annealed, and filling the spaces around the hub with charcoal, and the outside spaces with sand. The charcoal igniting from the heat of the wheels burns slowly, and anneals the centre of the wheel, while the sand protects the tread from the heat of the charcoal.

Claim.—Annealing the centre or plate of a car wheel, so as to render it quite malleable without annealing or injuring the chill or tread of the wheel by means of an annular partition or wall interposed between the wheels, the inside of the wall having charcoal, and the outside sand, or their substantial equivalents, placed therein, as and for the purpose substantially described.

No. 51,339.—SILAS S. MOWRY and ALBERT G. BATES, Providence, R. I.—*Spoke Shaver.*—December 5, 1865.—This invention consists in providing two metal wedges pivoted

at their outer and upper angles to the stock, so that by turning them down into their sockets they will wedge and hold the bit fast in its place.

Claim.—The use of the two turning wedge-form pieces E E for the purpose of holding the cutter of a spoke shaver in its stock, arranged and operating in the manner substantially as described.

No. 51,340.—WILLIAM MURDOCK, Winchenden, Mass.—*Spinning Bobbin.*—December 5, 1865.—In this invention the wood bushing is formed with slits in its inner end, so as to embrace the spindle tightly, and is expansible to adapt itself to the proper position.

Claim.—First, the wooden tube or clamp socket *a*, constructed in the manner and secured to the base of spinning bobbins, as described, so as to operate as and for the purposes herein set forth.

Second, the application and use of wood bushings, to embrace the spindle, in combination with spinning bobbins, so constructed as to be susceptible of adjustment uniformly to the spinning jenny, as described.

No. 51,341.—T. W. MURPHY, New Egypt, N. J.—*Making Horse Collars.*—December 5, 1865.—This invention consists in a frame or bench upon which are clasps. At each end of the frame there is a sliding table. These sliding tables are moved by means of an apparatus placed underneath the frame. The casing of the collar is placed upon the bench and under the jaws; by turning a winch handle the slides are moved inward or outward, to give the degree of tension required for the leather; then the collar is stuffed in the ordinary manner.

Claim.—The combination of the bench *a a g g*, mounted near its centre upon two legs *b b*, the stationary centre piece *f*, slides *h h*, extension apparatus *m q u2 v*, clamps *r*, and cam levers *s t*, all constructed and arranged to operate as and for the purposes specified.

No. 51,342.—GEORGE MURRAY, Cambridge, Mass.—*Press for Forming Metal Basins.*—December 5, 1865.—This invention consists in the arrangement of a stationary female cutting die and a movable male and female die, so as to cut from a sheet a round disk of metal, and form it up into a basin at one operation of each of the said dies. The said stationary die having an inner plane surface, against which the outer portion of the disk is pressed by the end of the female die, so that when the male or plunger die strikes the said disk into the female die, and begins to form it by drawing in its outer edge, it will not buckle or wrinkle.

Claim.—The combination of the reciprocating dies *d* and *e*, piston *m*, and clamp *f'*, all constructed and arranged substantially as described.

No. 51,343.—HENRY NAPIER and J. J. HOLLINS, Elizabeth, N. J.—*Manufacture of Glass.*—December 5, 1865.—This invention consists in substituting for the carbonate of soda or potash, hitherto used in preparing the batch, the nitrate of potash and soda, and in recovering the nitrate acid liberated, by conducting it to receivers for condensation, or into vessels containing an alkali in solution for the formation of nitrates.

Claim.—First, substituting, in the manufacture of glass or vitreous substances, for the carbonate of soda or potash, generally used as sources of the alkalies, nitrates of soda or potash, or of other alkalies, substantially as and for the purpose set forth.

Second, recovering in the manufacture of glass, where nitrates are used, the nitric acid evolved during the process, by means substantially as herein described, or any other equivalent means.

No. 51,344.—JOHN OEDING, San Francisco, Cal.—*Reflector for Lamps and Gas-burners.*—December 5, 1865.—This invention consists in a combination of the reflector, the supports thereof, and the sockets in which they are placed.

Claim.—The combination of all these parts, arranged in the manner herein substantially set forth, and for the purpose described.

No. 51,345.—THOMAS J. OLSAVER and WILLIAM P. ELLIOTT, Aurora, Ill.—*Enamelled Blind for Windows, &c.*—December 5, 1865.—This invention consists in attaching cloth, paper, or other similar material to suitable frames, and coating them with a composition of glue, isinglass, sulphate of zinc, and Spanish whiting. After this coating is dry, a suitable design is painted on it in oil or water colors.

Claim.—Constructing inside window blinds of frame panels of enamelled cloth, paper, or other similar material, prepared as described, or otherwise arranged and operating substantially as specified and shown.

No. 51,346.—J. L. OTIS, Florence, Mass.—*Thread Tension Device for Sewing Machines.*—December 5, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—Roughening that part of the tension wheel of sewing machines around which the thread passes, by cementing or otherwise fastening to it emery, sand, pounded glass, or any other equally sharp or gritty matter, that will hold the thread in contact with it, substantially as and for the purpose described.

No. 51,347.—OLIVER PALMER, Cincinnati, Ohio.—*Rotary Pump.*—December 5, 1865.—This invention consists of a duplicated and balanced series of revolving screw blades attached to a single shaft, and operating in connection with a corresponding series of stationary screw blades and with a central cylindrical receiving chamber, which has a converging inlet or scroll.

Claim.—First, the scroll or converging inlet B, which enters the receiving chamber A tangentially thereto, and in the opposite direction to the rotation of the blades, when adapted and applied to a rotary pump substantially as set forth.

Second, the combination of the rotary series of spiral blades E with the stationary series of spiral blades C, substantially as set forth.

Third, the duplicated rotary series of right and left spiral blades E and E′, on a common drive shaft D, and duplicated stationary series of right and left spiral blades C C′, combined and coacting as stated.

No. 51,348.—J. H. PATTEE and E. S. CLEVELAND, Galva, Ill.—*Grain Dryer.*—December 5, 1865.—This invention consists of an inclined and ribbed cylinder, adjustable at any desired angle by a lever and sliding plate at its lower end, with a fan blower and a furnace with a convoluted flue.

Claim.—The combination of the inclined and ribbed cylinder B F, adjusting lever *c*, sliding plate *b*, fan G, hot air chamber H, furnace K, and flue I, all arranged to operate as and for the purposes specified.

No. 51,349.—JAMES POWELL, Cincinnati, Ohio.—*Cock.*—December 5, 1865.—In this invention the bore of the barrel widens upward, the plug enters from below, and a coiled spring is inserted in its hollowed lower end when the nut is screwed on, and the plug is thus pressed up to duty. The key which fits into the upper end of the plug fits the escutcheon also, as no larger aperture is requisite.

Claim.—First, the combination of the barrel B, the sides D and escutcheon E of the guard, in manner substantially as set forth.

Second, the arrangement of the shoulder F between the guard E D and the conical plug chamber, for the purpose stated.

Third, the arrangement with the preceding of the upwardly tapering plug C *c c*, chamber B, spring G, and nut H, as set forth.

No. 51,350.—T. S. RAY and S. E. CLEVELAND, Buffalo, N. Y.—*Safety-valve Spring Balance.*—December 5, 1865.—This invention consists in the arrangement of the index hand and plate with spiral balance springs, screw rod, nut, and equalizing cross-piece; also of the lower cross-piece, with a screw-shank and nut, whereby any lost movement occasioned by loss of elasticity in the balance springs may be taken up without affecting the index hand.

Claim.—First, the combination and arrangement of an index hand F and plate I with spiral balance springs A, screw rod C, and screw nut E, for the purpose of indicating the pressure of steam required to raise the safety-valve, substantially as described.

Second, the combination with the balance springs A and screw rod C of an equalizing cross-piece C′, for the purpose substantially as described.

Third, the arrangement of the lower cross-piece with a screw-shank and nut, so that any lost movement occasioned by loss of elasticity in the balance springs may be taken up without affecting the index hand, substantially as set forth.

No. 51,351.—T. S. RAY, and S. E. CLEVELAND, Buffalo, N. Y.—*Locomotive Head Light.*—December 5, 1865.—This invention consists, first, in an annular space for the admission of air into the combination chamber, in combination with other features. Second, in a cushion for the chimney to stand on to avoid breakage by the jar of the engine. Third, in a conical shoulder and spring surrounding the ratchet spindle to prevent leakage.

Claim.—First, the combination of the deflector B and shield C with a cylindrical wick tube and button of a locomotive head-light lamp, the deflector and shield being so constructed and connected to the top of the wick tube as to form an annular space between the wick tube and shield for the entrance of air, and so as to form a combination chamber around and above the top of the wick tube, substantially as described.

Second, placing a cushion *f*, on the flange or shoulder *d′*, and between the deflector and shield, for the chimney to stand upon, substantially as set forth.

Third, the combination of the spindle-bearing or box piece I3, conical shoulder J, formed on the spindle contiguous to the pinion and spiral seating spring J′, the spindle bearing having a conical seat formed therein corresponding to the conical shoulder J, and connected to the outside of the wick tube, substantially as described.

No. 51,352.—WILLIAM C. REUTGEN, Vicksburg, Miss.—*Can for Preserving Butter.*—December 5, 1865.—This invention consists of a metallic can of any desired size and shape, lined with thin wood or veneer saturated with brine, for the purpose of preserving butter.

Claim.—First, a can for preserving butter, which is constructed of sheet metal, lined inside with a suitable inodorous and non-corrodible substance, substantially as described.

Second, a sheet-metal can, which is lined with wood or other substance saturated with brine, substantially as described.

No. 51,353.—T. D. ROBERTS, Middletown, N. Y.—*Wood-bending Machine.*—December 5, 1865.—The object of this invention is to bend wood into shape for the frame of wood saws, and it consists in a grooved bed in which works the bending metal strap and spring clamps. The bending strap is fastened to the former, which is revolved by a shaft, the former being in the shape of the object to be bent, and room for the said object to be placed between the strap and the outside of the former, which is revolved, thus bending the wood to itself while the strap holds it. The spring clamps take hold of projections and firmly secure all to the former. At the tail end of the former, is a cam with grooves, which, by turning, gives the desired bend to that part of the frame which is used as the handle.

Claim.—First, the combination of the grooved former M, bevelled plates N, and grooved bed P, constructed and operating as set forth.

Second, the employment or use of clamps Y, constructed and arranged as shown, for the purpose of securing the wood to the periphery of the former, as described.

Third, the cam O, attached to the former, and the head W, attached to the follower, separately and combined, for the purpose of giving the proper shape to the handle end of the wood, as set forth.

No. 51,354.—JAMES J. ROBINSON, Clinton, Ill.—*Churn.*—December 5, 1865.—This invention consists in a series of wheels or disks, coupled together from their centres, in pairs, and set outward around a vertical shaft. At different heights in the churn, in the revolution of the shaft, there are caused numerous eddies in the mass of cream, by reason of the wheels or disks passing through it.

Claim.—In churns, making the dashers of a series of disks, set in planes at right angles to the bottoms of the churns, and supported on the ends of radial arms fixed on a vertical shaft within the churn, so that when the shaft is turned the faces of the disks advance against and through the contents of the churn, substantially as described.

No. 51,355.—J. F. RODGERS, South Bend, Ind.—*Machine for Cutting Threads on Bolts.*—December 5, 1865.—In this machine the centre head has arranged upon its face, in radial lines, three sets of guides carrying slides, to which the cutting tools are secured. In the rear of the said head is a sleeve, to which is secured three clutches, which slide through the head in grooves formed in the sides of the guides next to the slides. The slides also have grooves, which are opposite those in the guides but are oblique. A spur upon the clutch projects into these oblique grooves. The sleeve being connected by a lever, which is worked by hand, may be slid in either direction upon the shaft, which has the effect to force the cutters together or apart, as desired, so that when the thread is cut upon the bolt the jaws may be opened and the bolt released without reversing the motion of the machine.

Claim.—First, the slides F, and dies *d*, in combination with the guides *b*, clutches R, and plates *a*, operating substantially as and for the purpose set forth.

Second, the clutches R, lever L, and sleeve G, operating in combination with the slides F, and guides B, in the manner substantially as set forth.

Third, the chuck H, when constructed and arranged as specified, in combination with the bridge tree P, and lever R′, as and for the purpose set forth.

No. 51,356.—BENJAMIN F. SANFORD, Galesburg, Ill.—*Animal Trap.*—December 5, 1865.—In this invention a spring jaw, armed with a hook, is set by being depressed downwards between two legs or supports of the frame, and is held by a lever detent, which engages with a sliding spindle or trigger, to which the bait is attached directly over the spring hook. On pulling the bait the detent is released, and the spring hook flies upward into the animal.

Claim.—The combination of bed-plate F, legs C, spring S, spindle B, dog A, in the manner and substantially as set forth in the above specification.

No. 51,357.—JAMES SANGSTER, Buffalo, N. Y.—*Scales.*—December 5, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, providing the scale beam with a double set or pair of pivots and bearings, in addition to those used for supporting the platform when said beam is used in connection or combination with a stand or base upon which it is supported, and a platform upon which the materials to be weighed are placed.

Second, the double lever H, with the stop K, or its equivalent, and the rest or piece L, when said lever is so constructed that one part only is brought into action while weighing heavy weights, and the whole of which is brought into action while weighing light weights.

Third, the frame R, when constructed as and for the purposes herein substantially set forth and described.

No. 51,358.—MARSHALL SATTLEY, Taylorsville, Ill.—*Gang Plough.*—December 5, 1865.—This invention consists in combining the frame with uprights upon the axle and elevating

levers, and the plough beams themselves, with jointed bars, to the first-named frame. Also, in fastening the tongues with a double slotted plate to the frame.

Claim.—First, the frame J, in the described combination, with the axle A, plough beams M M, levers L L, and uprights *g g*, all constructed and operating as described.

Second, the attaching of the draught pole W to the frame J by means of the slotted plate X and bolts *m' m'*, for the purpose of admitting the lateral shifting of the pole, and the setting of the ploughs more or less to land, as described.

No. 51,359.—JOHN F. SEIBERLING, Doylestown, Ohio.—*Harvester.*—December 5, 1865.—This invention consists in so arranging the levers by which a dropping grain platform is operated, upon a cap hinged to the main frame, that said cap may be raised without interfering with the action of the levers. A swinging link is attached to the bail or cut-off, and to the divider, by which the motion of the cut-off is regulated.

Claim.—First, the lever H, in combination with the dropping platform M, substantially as described.

Second, the arrangement and combination of the lever H, guide *y*, rod *h*, and treadle O, substantially as set forth.

Third, arranging a lever upon the hinged cap of a harvester in such a manner as to transmit motion to the dropping or grain platform, and at the same time allow the cap of the machine to be tilted up without cramping said lever, substantially as described.

Fourth, a swinging link, for checking and modifying the motion of the cut-off, substantially as set forth.

No. 51,360.—H. K. SMITH, Norwich, Conn.—*Friction Clutch.*—December 5, 1865; antedated November 18, 1865.—This invention consists in forming the periphery of a shaft in sections, with a rod in the centre extending near the centre of the shaft, which rod rests upon a conical-shaped plug within the axis of the shaft, which can be moved by raising or lowering the sectional pieces of the shaft, thus bringing either to bear against the gear wheel.

Claim.—First, forming the exterior of a shaft in one or more sectional pieces or parts, in combination with a conical or other suitable shaped plug placed and moving within the interior of the said shaft, the said sections and plug being so connected together that, by moving the plug either forward or backward within the shaft, the said sectional pieces are either brought to bear against or released from the gear or other device properly arranged therefrom upon the shaft, substantially as herein described and for the purposes specified.

Second, the peculiar arrangement herein described, the same consisting of the conical-shaped plug or shaft *p*. and sectional pieces *d d*, arranged in regard to and bearing upon the same, substantially as and for the purposes specified.

No. 51,361.—D. M. SMYTH, New York, N. Y.—*Machine for Making Paper Collars.*—December 5, 1865.—In this invention a platen, moving vertically, carries upon its face or under side, first, the embossing or punching parts, and secondly, the excising die. The platen is moved reciprocally, by an eccentric, upon a horizontal shaft above. The platen operates, in its movements, a clamping frame-work, which carries the papers forward a distance equal to the width of a collar after every impression or descent of the platen.

Claim.—The reciprocating feeding frame, with the sides thereof grooved to receive the sheet of paper, in combination with the griping fingers, substantially as described, and having a mode of operation such as described and for the purpose specified.

Also, the reciprocating feeding frame, with its griping fingers, operating substantially as herein described, in combination with the dies for embossing and cutting the collars substantially as described.

No. 51,362.—JOHN M. SPEIGLE, Philadelphia, Penn.—*Instrument for Cleaning Boiler Flues.*—December 5, 1865.—The object of this invention is to clean the interior of tubes by the combination of a rod, a series of washers, disks of gum elastic, and nuts.

Claim.—The within described instrument, composed of the rod A, its series of washers D, disks E, of the gum elastic and the nut *a*, or its equivalent, the whole being constructed and arranged substantially as and for the purpose herein set forth.

No. 51,363.—JOHN F. STRATTON, New York, N. Y.—*Mute for Musical Instrument.*—December 5, 1865.—This invention consists in the use as a mute for musical instruments of a plug made to fit the bell of the instrument, and provided with a central tube, extending through both heads of said plug in such a manner that when the plug is applied to the bell of the instrument the sound is deadened without throwing the instrument out of tune, and pupils are enabled to practice on the instrument without annoying their neighbors.

Claim.—A mute for musical instruments composed of a conical plug with a central pipe extending through both heads of the plug and a certain distance beyond the same, substantially as and for the purpose described.

Also, fitting the central tube of the mute with an extension piece, substantially as and for the purpose set forth.

No. 51,364.—JOHN B. TINKER, Buffalo, N. Y.—*Mowing Machine.*—December 5, 1865.—The construction of the machine is such as to locate the cutting apparatus between the two drive wheels, the draught attachment being centrally in front of the cutting apparatus, so that when the machine is in operation one horse and one drive wheel will travel in the standing grass and the other on the mown grass.

Claim.—First, in a mowing machine having wheels so arranged that one horse walks in the standing grass when mowing, supporting and holding the finger bar at both ends by means of the extended and hinged shoes E, in combination with so locating the finger bar and cutters that the cutters will do their work within or between the track of the two driving wheels.

Second, the combination of the carrying rollers F, with the hinged and extended shoes E, arranged and located substantially as herein described.

Third, the arrangement of the hand lever M, chain wheels L′ L2, chains L3 L4, and supporting frame posts B3, as herein described, so that power may be conveniently applied simultaneously and equally at both ends of the cutting apparatus for raising it to pass obstructions.

Fourth, the combination and arrangement of the spring O, with the hand lever M, chain wheel L′ L2, and chains L3 L4, for the purposes and substantially as described.

No. 51,365.—JAMES TOWNSEND, Head of Sassafras, Md.—*Cultivator.*—December 5, 1865.—This invention consists in the arrangement of the lifting bar, lever, and beams, the beams being made adjustable vertically on the bar by means of screws and nuts, and laterally, by means of holes and pins, and at the same time the bar can be raised or lowered through the medium of the lever, from the ground, as desired.

Claim.—The arrangement and combination of the lifting bar G, lever K, with the beams F, made adjustable up and down, and also capable of being run laterally by the stirrups, substantially in the manner and for the purposes set forth.

Second, the use of the hinged bar O, carrying the shanks P and markers R, the bar being provided with adjusting screws V, and operated by the lever S, substantially as described.

No. 51,366.—CHARLES TRUESDALE and ABNER J. SENNETT, Cincinnati Ohio.—*Molder's Match Plate.*—December 5, 1865.—This invention consists in obtaining from a plaster cast a two-faced match plate, in the ordinary manner, then painting upon the inner side of the same a thickness of sand and paint equal to the casting required, then moulding again from this and taking a cast of a second match plate, of a material sufficiently durable to form a permanent pattern from which any number may be made.

Claim.—The mode or manner, substantially as described, of obtaining two-faced match plates in mastic from the original block.

No. 51,367.—SALMON E. TYLER and RICHARD TATTERSHALL, Beloit, Wis.—*Harness Buckle.*—December 5, 1865.—This invention consists of a lever attached to a round cross-bar in the buckle frame, clamping the tug under a flat cross-bar outside the buckle frame, extending the whole length of said frame and beyond the rear end thereof.

Claim.—The lever B, attached to the said round cross-bar in the buckle frame *a*, as shown at Fig. 1, clamping the tug or strap under the said flat cross-bar in the said frame *a*, arranged so as to work inside the buckle frame extending the whole length of the said frame and beyond the rear end thereof. provided with the bar or loop under which the tug or strap is passed, and attaching the breeching strap to the said loop in the rear end of said lever B, when constructed substantially as and for the purposes herein set forth and described.

No. 51,368.—RICHARD VOSE, New York, N. Y.—*Car Spring.*—December 5, 1865; antedated November 20, 1865.—This invention consists in combining a rubber centre or core within an encircling metallic spiral spring, so that the rubber shall adhere and be firmly fixed to the coils of the metallic spring, and it relates also to a mode of obtaining this result by curing the rubber while in contact with said metallic spring.

Claim.—The combination of an India-rubber column with the interior of a spiral spring of metal, when the rubber and metal are cemented together along the entire length of the metallic coil, substantially in the manner and for the purpose herein set forth.

Also, the use, in combination with the interior of a coiled metallic spring, of a central column of India-rubber, spirally grooved, substantially as and for the purpose herein set forth.

No. 51,369.—W. M. WATSON, Tonica, Ill.—*Method of Treating Grain for the Manufacture of Alcohol.*—This invention consists in heating the meal in a kiln to 210° Fahrenheit, before placing it in the mash tun, after which it is placed in the mash tun containing water at 210° Fahrenheit.

Claim.—The heating of the meal, as set forth, and mixing the same with hot water, for the purpose of dissolving the starch, as set forth and for the purpose described.

No. 51,370.—H. A. WEBBER and C. REIFSNYDER, Chicago, Ill.—*Apparatus for Filling Barrels.*—December 5, 1865.—This invention consists of a tube having a branch tube through which the liquid passes from the reservoir; the end of the tube is placed in the bunghole of

the barrel when the apparatus is to be used. A tube is attached to another tube, and communicating with the inside of the barrel, is connected to a vessel containing a float. When the barrel is full the liquid rises in the tube and lifts the float, which operates a trigger, thus releasing the rod. The valve then falls upon the seat and stops the flow of the liquid.

Claim.—First, the combination of the valve G, float F, and lever L, or its equivalent, arranged and operating substantially as specified and shown.

Second, in combination with a self-closing barrel filler, operating substantially as described, the employment of an adjustable tube C, for the purposes specified.

No. 51,371.—HENRY A. WEBBER and CHARLES REIFSNYDER, Chicago, Ill.—*Apparatus for Filling Barrels.*—December 5, 1865.—In this invention a hollow conical plug fits in the bunghole; an interior plug revolving within this, has a vertical groove on two opposite sides; these grooves being brought in line with two ports, one at the top and the other at the bottom, on each side in the outer plug or case, the liquid is admitted at one side and the air escapes at the other, until the vessel is full, when the liquid ascends the side opposite that at which it enters, until the weight of what has ascended into a reservoir overcomes the resistance of a spring which holds the grooves of the plug in line with the ports, when the flow ceases.

Claim.—First, closing the ports of the turning block B automatically by the weight or pressure of the fluid, substantially as and for the purposes specified and shown.

Second, in combination with the casing A, and turning block B, the employment of the pin *c*, catch *a*, and springs *s*, or its equivalent, substantially as and for the purposes specified and shown.

Third, the combination of the turning block B, constructed as shown, with the casing A, arranged and operating substantially as shown and described.

Fourth, the combination of the turning block B, chamber E, arm *d*, catch *a*, and pin *c*, operating as and for the purposes specified and shown.

No. 51,372.—HENRY A. WEBBER and CHARLES REIFSNYDER, Chicago, Ill.—*Self-closing Barrel Filler.*—December 5, 1865.—In this invention the liquid flows into and through a stop-cock to enter the barrel. When the barrel is full the liquid flows into a cup arranged laterally for the purpose, and there raises a float by which a lever is operated to trip a spring and cause the ports to close and the flow ceases.

Claim.—First, in combination with a device for admitting fluids into casks and other similar vessels provided with an inlet and outlet port, substantially as herein set forth, and a valve or slide or plug for closing the same, the employment of a float, operated by the pressure of the fluid escaping from the cask, substantially as and for the purposes specified.

Second, the combination of the outlet pipe D, the cup E, the float H, and lever *a*, or its equivalent, arranged and operating substantially as herein shown and described.

No. 51,373.—WILLIAM WHARTON, Jr., Philadelphia, Penn.—*Railroad Switch.*—December 5, 1865.—This invention consists of a device whereby the switch of a railroad is locked in connection with the turnout, while the switch tender is at his post, but the moment he leaves the switch automatically locks itself in line with the main track.

Claim.—First, a lever F, for operating a switch in combination with the lever K, or an equivalent device, which when held in a proper position by the switch-tender will serve to retain the said operating lever, but which on being released will permit the rails of the switch to be automatically restored to a position in line with those of the main track, all substantially as described.

Second, in combination with the above, the pendulous catch H, or other equivalent locking device, for the purpose specified.

No. 51,374.—WILLIAM N. WHITELEY, Jr., Springfield, Ohio.—*Harvester.*—December 5, 1865.—In this invention the tongue is attached to the main frame by a bolt passing through two serrated plates attached respectively to the tongue and frame, so that the former may be fixed at any desired angle. The lever upon which the counterpoise is placed extends to the rear of the machine, and is then linked to the coupling arm. The drag bar is attached to the forward part of the main frame by an adjustable pendent stud. The pitman has its bearing upon a sleeve, through which a bolt passes that is screwed into the crank, and is adjustable thereon.

Claim.—First, the radially serrated plates L and I, in combination with the bolt *m*, the tongue M, and main frame A, for the purpose of making the said tongue rigid at any angle of elevation that may be desired.

Second, in combination with the cutting apparatus and coupling arm T, the lever U, and counterpoise *u*, as and for the purpose set forth.

Third, in combination with the drag bar O, the adjustable pendent stud N, substantially as and for the purpose set forth.

Fourth, in combination with the drag bar O, and pendent stud N, the shoe P, and coupling arm T, when constructed and connected substantially as described.

Fifth, in combination with the crank *k*, and pitman W, the sleeve X, and bolt *x*, substantially as set forth and described.

No. 51,375.—S. H. WILEY, Salisbury, N. C.—*Draughting Scale.*—December 5, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, the placing upon the sides of a right-angled measuring rule two movable hands or pointers, by which hands or pointers spaces upon the rule are measured and computed, as described in specification.

Second, the application of the instrument thus produced to the copying by measurement either in exact, enlarged or diminished size and proportion, draughts and pictures of all kinds.

No. 51,376.—H. B. WILLIAMS and JOSEPH C. WILSON, Appleton, Wis.—*Rock Drill.*—December 5, 1865.—This invention consists in applying serrated chisels or cutters to a perforated cone, and combining this form of cutter with a hollow central discharge shaft, having valves in it which open upward for the purpose of obtaining a very large amount of cutting surface, and allowing the free upward discharge of the detritus into the hollow shaft.

Claim.—First, a perforated conical drill head *a*, which is provided with serrated cutting edges *b b'*, substantially as described.

Second, the combination of a hollow sectional shaft A, with a perforated central discharge drill, which is constructed of a conical form substantially as described.

No. 51,377.—U. B. WILLIAMS, Lowell, Mich.—*Wool Press.*—December 5, 1865.—This invention consists in the peculiar construction of the parts of a press, more especially adapted for wool, for the purpose of securing simplicity, cheapness, effectiveness, and durability.

Claim.—The arrangement and construction of the wool press herein described.

No. 51,378.—SETH WILMARTH, Boston, Mass.—*Means of Raising Monitor Turrets by Hydraulic Pressure.*—December 5, 1865.—This invention consists in the use of certain devices for raising monitor turrets by hydraulic pressure and means of packing the foot of the turret shaft.

Claim.—Raising the turrets of iron-clad or wooden vessels by means of hydraulic pressure, substantially as and for the purpose set forth.

Also, packing the foot of the turret shaft B, by means of the disk C, packing ring D, and packing *c*, in combination with the hydraulic pump E, inlet passage *f*, and outlet passage *k*, operating substantially as described.

No. 51,379.—ISAAC WINSLOW, Philadelphia, Penn.—*Knife for Removing Green Corn from the Cob.*—December 5, 1865.—This invention consists of a curved knife with the piece of metal curved attached and corresponding with the knife, so as to insure the ready cutting of the corn from the cob without cutting the cob. It can be regulated by means of the curved metal bar forming a gauge.

Claim.—The above described curved knife, provided with a broad, flat gauge, for the purpose of cutting green corn from the cob, substantially in the manner set forth.

No. 51,380.—AARON WISSLER, Clay Township, Penn.—*Guards or Fingers for Harvesters.*—December 5, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The construction and arrangement of the guards or fingers B *b*, with teeth *e*, and bevelled or sharpened edge C, substantially in the manner and for the purpose specified.

No. 51,381.—ALFRED WOODWORTH, North White Creek, N. Y.—*Lifting Jack.*—December 5, 1865.—This invention consists in the employment of a spiral spring located under the lower end of the rack bar in a lifting jack, for the purpose of throwing the said bar up against the axle of the vehicle, after which it can be worked or forced up by the teeth of the lifting lever to the desired height, so as to save considerable time as well as manipulation of the lever. A detent pawl or lever is also employed for holding down the rack bar when the spring is depressed.

Claim.—First, the employment or use of a spiral spring E, under the bottom of the rack bar, for the purposes herein shown and described.

Second, the detent pawl F, in combination with the rack bar A, and spring E, substantially as described.

Third, the combination and arrangement of the rack bar A, lifting lever C, locking bar or pawl D, spring E, detent pawl F, and spring H, as herein shown and described.

No. 51,382.—EDWARD ASHDOWN and GEORGE W. GALPIN, assignors to themselves and SAMUEL B. PIERCE and PEMBROKE PIERCE, Homer, N. Y.—*Device for Sinking Wells.*—December 5, 1865; antedated October 31, 1865.—This invention consists in a combination of devices for the purpose of sinking a well by driving down tubing provided with orifices near its bottom for the admission of water, and with a drill head into a bore made previously by a rotary boring apparatus.

Claim.—The arrangement of the tube A, cap piece B, rod C, and socket D, used in the manner and for the purpose herein set forth.

No. 51,383.—EDWIN E. BEAN, Abington, Mass., assignor to himself and JACOB CHICKERING, Andover, Mass.—*Waxed Thread Chain-stitch Sewing Machine.*—December 5,

1865.—In this invention the large cams usually employed are dispensed with, thus diminishing friction and noise.

Claim.—Actuating the needle lever of a chain-stitch wax-thread sewing machine by means of a crank pin *o* on the driving shaft and curved slot *m*, in combination with a hooked needle 6 and cast-off *p*, substantially as and for the purpose set forth.

Also, in a chain-stitch wax-thread sewing machine, the shaft Q for operating the awl, presser foot, and thread guide, above the table, in combination with a hooked needle 6, and cast-off *p*, below the table, substantially as described.

Also, in a chain-stitch wax-thread sewing machine, the disk U, awl shaft W, and connecting rod *m'*, above the table, in combination with a hooked needle 6, and cast-off *p*, below the table, substantially as set forth.

Also, operating the presser foot Y by means of the latch *u*, lifting dog *t* on the disk U, and and screw 17, substantially as described.

Also, operating the thread guide U, by means of the cam groove *j'* in the disk U, in combination with the crank K' on the shaft V, substantially as set forth.

Also, operating the awl, presser foot, and thread guide, by means of the same shaft, substantially as and for the purpose set forth.

No. 51,384.—A. F. CUSHMAN, Hartford, Conn., assignor to the WARWICK TOOL COMPANY, Middletown, Conn.—*Scroll Chuck.*—December 5, 1865.—This invention consists in forming upon the head of the chuck a scroll. which engages with the teeth upon the jaws, to give them a radial movement. The radial grooves in the jaws are made in the collar, which slips over the head, and is secured by a screw collar which screws into it.

Claim.—First, the head A, having the scroll *a* on its face, in combination with the jaws *b* and cap B, constructed and operating substantially as shown and described.

Second, the cap B, provided with the flange B', having the radial slots thereon, in combination with the collar C, head A, and jaws *b*, as and for the purpose set forth.

No. 51,385.—HIRAM P. DILLINGHAM, assignor to M. O. WAGGONER and GEORGE P. ROBERTS, Norwalk, Ohio.—*Saw.*—December 5, 1865.—This invention consists in having short blunt teeth for every third or fourth tooth, which is as much shorter than the cutting tooth as the tooth is required to cut, and thus prevents the hooked teeth of saws from setting in the timber or log.

Claim.—Constructing saws in such a manner as that certain of the teeth shall operate as guards to prevent the saw from feeding too much, or clogging in the timber, substantially as described.

No. 51,386.—WILLIAM T. GILLENDER, assignor to himself and EDWIN BENNETT, Philadelphia, Penn.—*Blow Pipe.*—December 5, 1865.—The object of this invention is to enable the glass blower to shape or form glass vessels requiring handles or protuberances so that they can be attached or formed simultaneously with the vessel in the mould, and it consists in a perforated plunger, having a blowpipe attached thereto, in combination with it the usual snap.

Claim.—A perforated plunger A, having a blowpipe B attached thereto, the same being constructed and united together so as to operate substantially as and for the purpose described.

Also, in combination with the subject-matter of the above claim, the employment of the snap C D, constructed and applied so as to operate substantially as and for the purpose described.

No. 51,387.—LOUIS GODDU, assignor to REUBEN W. DREW, Lowell, Mass.—*Hand-pegging Machine.*—December 5, 1865.—This invention consists in securing the awl and peg driver to the plunger, so that they will not have any movement independent of each other, and in feeding the machine along the sole, by the application of the hand to a crank attached to a driving shaft; it also consists in cutting off the pegs separately, by a knife which remains stationary, and while the peg-wood is being fed through the peg trough by a follower, actuated by a spring, &c.

Claim.—In hand-pegging machines for pegging boots and shoes, the application to the driving shaft, of a crank, operating simultaneously as and for the purpose set forth.

Also, the flexible knife N for cutting off the pegs separately, and for holding them in the proper position for being driven, substantially as described.

Also, depressing the awl *e* and peg driver *d*, by releasing the spring E, substantially as described.

Also, securing the awl and peg driver to the plunger F, to prevent them from moving independently of each other.

Also, feeding the peg-wood J through the peg trough I, by means of a follower K actuated by a spring L, substantially as set forth.

Also, as an improvement in hand-pegging machines, producing the feed by means of the foot piece *l*, actuated by the flattened or eccentric portion *r* of the driving shaft B, in combination with the awl *c*, operating substantially as described.

Also, as an improvement in hand-pegging machines, the block G, or its equivalent, in combination with the dog D, or its equivalent, for raising the plunger, constructed and operating substantially as deseribed.

Also, as an improvement in hand-pegging machines, pivoting the beam O to the frame A, to allow of its vibration, substantially as described.

Also, the spring S, operating substantially in the manner and for the purpose set forth.

No. 51,388.—ALBERT KELSEY, assignor to himself and AMOS BROWN, Charlestown, Mass.—*Prism Lathe.*—December 5, 1865.—This invention consists of a lathe for turning prisms, and a revolving face plate, upon which are adjustable mandrels. Between each of the mandrels, and its spur head, is placed the thing to be operated upon, which is done by any convenient way of presenting the cutting tools, and as one face of the prisms is cut to its shape, it is revolved by means of a pinion in the hub the distance required for giving another face the shape of the first.

Claim.—First, a prism lathe, made substantially as hereinbefore described, viz., with its mandrels and spur heads G I and their centres K, and the poppet heads I thereof, arrranged on the face of the head or wheel A, and in other respects in manner, and so as to operate as set forth.

Second, the combination of the gauge plate M, and its clamp screw *g* and indicator N with the case D, the key shaft F, the mandrels G, and their operating gears E H, as described, the whole being arranged with respect to a rotary plate or wheel D, and to operate substantially in the manner and for the purpose as specified.

No. 51,389.—GEORGE A. LAMB, Washington, D. C., assignor to himself and SAMUEL SURBURG.—*Rotary Steam Engine.*—December 5, 1865.—This invention consists in the application of steam to a wheel, and dispensing with valves for its ingress and egress, whereby to economize friction in its construction, and render the rotary steam-engine more simple, efficient, and durable; it also consists in the construction of caps with grooves, metallic packing, and set screws, in combination with adjustable plates, and a wheel.

Claim.—First, the construction of the cap B with the grooves F, metallic packing, and set screws D D, substantially as and for the purposes set forth.

Second, the combination of the cap B and adjustable end plates G, substantially as and for the purposes set forth.

Third, the combination of the cap B and wheel C, constructed substantially as and for the purposes set forth.

No. 51,390.—SAMUEL MARDEN Newton, Mass., assignor to himself, WM. H. ALLEN, A. P. TROTT, and CYRUS COBB, Jr.—*Machine for Preparing Peat for Fuel.*—December 5, 1865.—This invention consists of a box, containing a series of triturating drums, which are made to revolve by means of suitable gearing. Directly under the box is a conical box, within which is a follower. Below the said conical box is a moulding box, so arranged that, while one cell is under the follower, the other is under a plunger. The follower presses the pasty mass of peat into the cell directly under it, the lower end of said cell being closed by a block, and at the same time the plunger presses out the peat in the other cell.

Claim.—The combination of the triturating mechanism, the follower, and the moulds, when arranged to operate substantially as described.

Also, the employment of the cleavers, in combination with the follower and double-set of mould boxes, substantially as shown and described.

Also, the combination of the mould box or frame, with the perforated sides and filling of sponge, substantially as specified.

Also, the arrangement of combination or mechanism for actuating the follower and cleavers, substantially as shown.

Also, the mechanism for imparting the reciprocating lateral movements to the mould box, substantially as set forth.

No. 51,391.—EDWIN S. PIPER, assignor to himself and JOSIAH HOWE, Springfield, Mass.—*Cartridge Retractor for Breech-loading Fire-arms.*—December 5, 1865.—This invention consists of a hinged breech-block, which, on being raised upward and forward by means of a spring lever, moves backward a spring sliding cartridge retractor a given distance, when, escaping from the latch, the retractor springs forward to its seat.

Claim.—The elbow lever *i j*, and spring *m*, in combination with the ejector E, spring latch *g*, and vertically swinging breech-block B, constructed and operating substantially as and for the purpose described.

No. 51,392.—C. H. PRENTISS, assignor to himself and A. VAN NORMAN, Detroit, Mich.—*Steam Boiler Feeder.*—December 5, 1865.—This invention consists of a stationary reservoir, connected by pipes with a valve chest, in which valves are so arranged as to permit the flow of water into the oscillating chambers, which chambers are alternately filled with water and steam, and so arranged that their motion opens and closes communications with the boiler and condenser in which the steam is condensed, after having performed its function in

the chamber. These chambers receive the water from the stationary reservoir, and when one of them is filled to a certain extent, it is depressed, and steam is admitted to it through the pipes leading from the boiler, and its contents are allowed to flow into the boiler, and while this is being done, the other is being filled with water, until by its weight it is depressed, and the other one is elevated, and thus the operation is repeated, and the boiler is supplied with water.

Claim.—First, the valves R, and chest *d*, when arranged and connected together on each side of the chest, and operated conjointly, as set forth.

Second, the combination of the oscillating chambers E L with the condensers G, and valve drums M M′, when arranged and operating substantially as set forth.

Third, the combination of the beam H, pendulum J, and connecting rod U′, in combination with the valves R and chambers E L, as and for the purpose specified.

No. 51,393.—JOHN ROWBOTHAM, assignor to himself and ANDREW J. DESHER, Philadelphia, Penn.—*Balanced Slide Valve.*—December 5, 1865.—This invention consists in a valve, having the exhaust opening through it, so as to leave a passage open to the steam chest cover, in combination with certain strips adapted to each other, and to the sides of the valve, and to the cover of the steam chest, so as to form a steam-tight joint between the valves and the top thereof. These strips are held in position by springs, and move up or down upon the steam chest, so as to provide for any inaccuracy in the space between the valve seat and the cover of the steam chest, and are provided with recesses for steam upon all of their bearing surfaces, to prevent undue friction.

Claim.—First, a slide valve, having an exhaust chamber open to the steam chest cover, in combination with strips adapted to each other, and to the said valve and cover, substantially as and for the purpose described.

Second, the arranging of the recesses formed in the said strips, and communicating with the exhaust chamber, substantially as specified.

Third, the combination of the said strips with spring G, constructed and applied to the said strips, substantially as set forth.

Fourth, the combination of the body of the valve, the strips, and the springs H, or their equivalents.

No. 51,394.—ABEL F. SAUNDERS, Boston, Mass., assignor to EVERETT SMITH, Boston, Mass., and BARNARD T. FELLOWS, Malden, Mass.—*Step Ladder.*—December 5, 1865.—This invention consists in attaching the supports to the steps by means of side braces so arranged and pivoted that the whole can be compactly shut up and instantly opened ready or use.

Claim.—The support B in combination with the side braces *d e* and steps A, arranged and operating substantially as set forth.

No. 51,395.—STEPHEN WILCOX, Jr., assignor to himself and CHARLES POTTER, Jr., Westerly, R. I.—*Steam Generator.*—December 5, 1865.—This invention consists of an upper and lower water chamber, connected together by a series of tubes, through which the water circulates, and around the exterior surface of which the products of combustion rise from the fire box about two-thirds of their length, when they come in contact with a diaphragm, by which they are deflected downwards and are made to pass near the lower ends of the tubes, when they again rise and traverse across the upper ends thereof to another series of tubes located in the centre of the generator; through this they pass to the upper tube, and superheat the steam in the upper portion of the generator. The outer circle of the lower series of tubes have water pipes passing through them, with bent tops for the purpose of promoting circulation of the water. Around the outer side of the generator a double casing is placed for the purpose of preventing radiation and keeping the heat in contact with the generator.

Claim.—First, the combination and arrangement of the chambers A and E and the tubes D and I, substantially as and for the purpose herein set forth.

Second, the removable jacket L made in two or more thicknesses of the same or different materials, and arranged relatively to the chambers A and E, and to the series of tubes connecting them, substantially in the manner and for the purposes herein set forth.

Third, the within described construction and arrangement of the parts C G G′, or their equivalents, whereby the draught is made to pass first around the middle and lower portions of the tubes D, and then around their upper portions, and finally through to tubes in the steam chamber, as herein set forth.

Fourth, the conical sides of the furnace F arranged as represented relatively to the tubes D I, and adapted to extend the furnace outward under the tubes D, substantially as herein specified.

Fifth, the arrangement of the arm *i* extending laterally from the axial line of the tube I above the tube wheel A′, and the extension of the lower end of the tube I below the tube sheet E′, substantially as herein specified, for the purpose of receiving the water at the upper end unmixed with the steam rising from the tube D, and of delivering it at the lower end without interfering with the current rising into the tube D.

Sixth, the within described arrangement of the steam pipe K, whereby it receives the steam from the interior of a series of tubes B, and compels it to circulate more perfectly in contact with the latter before its exit from the boiler, substantially as herein specified.

No. 51,396.—RUEL W. WHITNEY and F. M. HARDISON, assignors to themselves and ALNER C. STOCKIN, South Berwick, Me.—*Mowing Machine.*—December 5, 1865.—This invention consists in a means for supporting and throwing in and out of action the cutter driving mechanism, in connection with the lever for raising the cutters to pass an obstruction or for transportation, whereby the movement of said lever in raising the cutters serves at the same time to throw the cutters out of action.

Claim.—The combination and arrangement of parts by which the vertical movements of the knife head and the reciprocating movements of the knife are effected, and the mechanism for operating the knife is thrown into or out of action as circumstances may require, such parts being the cam B, with its serpentine groove *e*, the inclined lever *g*, with its stud roller *f* and connecting rod *n*, the rocker shaft *h*, with its arms *k l* and spring *m*, and the lever *g* and its chain *t*, the whole being arranged with respect to the wheels, platform, and rake head, and applied thereto substantially in the manner and so as to operate as herein before specified.

No. 51,397.—HENRY BESSEMER, London, England.—*Manufacture of Iron and Steel.*—December 5, 1865; patented in England February 1, 1861.—This invention consists, first, in constructing tuyeres independent of the vessel; second, in putting in and removing such tuyeres from the converting vessels by hydraulic apparatus; third, in the employment and arrangement of retorts or chambers for heating or retaining the heat of said tuyeres. The invention further consists in giving a rotary or semi-rotary motion to a converting vessel by a hydraulic plunger and its counter weight; also in constructing and using a casing ladle, with an elongated or tubular spout made to descend into the ingot mould.

Claim.—First, the arrangement and construction of converting apparatus, substantially as and for the purposes shown.

Second, tuyeres which pass into the fluid metal in a converting vessel, through the upper surface of said metal, in combination with a converting vessel mounted on axes.

Third, the employment, in the conversion of molten, crude, or refined pig iron into steel or into malleable iron, of tuyeres, built up or constructed as herein described.

Fourth, introducing one or more tuyeres into the coverting vessel, and removing the same therefrom through suitable openings made in said vessel, in the manner described.

Fifth, heating the tuyeres in a retort or chamber previous to introducing them into a converting vessel.

Sixth, a tuyere used in a converting vessel, in combination with any suitable apparatus capable of conveniently varying the speed of the tuyere, or of instantly stopping it when desired.

Seventh, a casting ladle or receptacle for casting malleable iron or steel, or other suitable material, provided with a tubular spout adapted to descend into the ingot mould, substantially as herein described.

Eighth, in the casting of ingots of malleable iron or steel, the immersion below the surface of the fluid metal of the orifice from which the metal flows into the mould.

Ninth, moving said orifice gradually upward as the level of the metal rises in the mould.

Tenth, a converting vessel capable of rotary motion upon its own axis, in combination with a rope or any equivalent means, operated by hydraulic pressure in a cylinder, for the purpose of giving to such vessel a rotary or semi-rotary movement.

No. 51,398.—HENRY BESSEMER, London, England.—*Manufacture of Iron and Steel.*—December 5, 1865; patented in England January 8, 1862.—This invention will be fully understood by reference to the claim and engraving, and is designed as an improvement on the patent of the same invention dated November 11, 1856.

Claim.—First, in the manufacture of malleable iron and steel when forcing currents of atmospheric air through the fluid metal, the combined arrangement, substantially as herein described, whereby the steam employed for forcing such air is generated by means of the heat escaping from the reverberatory furnaces that are employed in melting the iron to be so converted.

Second, the opening and closing of the passage conducting air into a converting vessel by means of the rotary motion of such vessel acting through suitable mechanism on a valve situated in said air passage.

Third, in combination with a converting vessel, several separate tuyere boxes, constructed and operating substantially as described.

Fourth, the combination with a converting vessel of tuyere boxes with separate compartments, constructed and operating substantially as described.

Fifth, employing a pair of converting vessels placed in such a position with reference to each other that the flame and splashes emitted therefrom shall be projected in opposite directions, substantially as and for the purposes described.

Sixth, employing a pair of converting vessels so movable upon their own axis as to be capable of being placed in such relation to each other that the flame and splashes emitted therefrom shall be projected in opposite directions, and as to be also capable of being placed, when desired, in such positions as to discharge their contents into the same ladle.

Seventh, combining with two or more converting vessels a ladle so arranged and operated, either by means of a crane or in any other convenient manner, that the contents of said

vessel may be discharged into it and at the same time, so that the ladle shall be capable of swinging or turning on its point or points of suspension while being moved, substantially as described.

Eighth, combining a converting vessel with a chimney, constructed with an open space beneath it, substantially as described, for the purpose of giving access to such converting vessel.

Ninth, a converting vessel provided with a line of tuyeres placed through the sides of the vessel, substantially as and for the purposes set forth.

Tenth, the employment of ladles formed with a second chamber or receptacle attached thereto, for regulating the supply of metal to the moulds, substantially as described.

Eleventh, combining the valves and cocks by which the apparatus is set in operation, so that the workmen may conveniently move them from a given place, substantially in the manner described.

No. 51,399.—HENRY BESSEMER, London, England.—*Manufacture of Malleable Iron and Steel.*—December 5, 1865; patented in England January 13, 1863.—This invention is plainly set forth in the claim.

Claim.—First, the employment of a converting vessel, having a receiver formed beneath it, into which the air is forced before entering the tuyeres, and into which the converted metal is received when the forcing in of air ceases.

Second, covering orifices of tuyeres in converting vessels, so as to prevent the access of metal or other matters thereto until the blast of air is applied beneath such covering.

Third, making the joint between the upper and lower divisions of a converting vessel above the level of the charge of fluid metal, substantially as shown.

Fourth, constructing the converting vessel in such a manner that the contained fluid metal when not supported by the pressure of air may descend through the tuyere holes, when such vessel is provided with any suitable means for conducting the metal in a ladle or mould.

Fifth, mounting converting vessels on wheels, so that they may be movable to or from the casting pit, substantially as described.

Sixth, employing the upper part of one converting vessel over the lower part of another converting vessel, so as to hasten or facilitate a repetition of the converting process, substantially as set forth.

Seventh, providing several movable bottoms containing tuyeres, and capable of being attached to a converting vessel, substantially as and for the purposes described.

Eighth, setting tuyeres in a detached portion of a converting vessel, substantially as and for the purposes described.

Ninth, drying or baking the detached portion of a converting vessel together with the tuyeres therein contained, prior to conducting said portion to the vessel.

Tenth, heating the movable bottom and tuyeres therein contained, preparatory to commencing the converting process, substantially as and for the purposes set forth.

Eleventh, substituting a funnel or chimney of suitable material suspended from the roof, or secured in such a manner as to afford a free open space around the converting vessel, in lieu of the chimneys heretofore used opposite to the mouth of each converting vessel, substantially as and for the purposes described.

Twelfth, the combination of a converting vessel mounted on an axis, of a piston and rack placed in a vertical position for giving motion to such converting vessel, substantially as described.

Thirteenth, conveying the blast through a tube surrounding the axis of converting vessels, in lieu of passing it through the axis, as heretofore practiced, substantially as described.

Fourteenth, constructing tuyeres, the orifices of which are formed or arranged substantially in the manner represented in figures 7, 8, 9, 10, 11, and 12, on sheet D, of the annexed drawings.

Fifteenth, the employment of a rotary, semi-rotary, or reciprocating paddle or agitator for the purpose of facilitating the mixing, carbonizing, or alloying of converted with unconverted metal.

Sixteenth, covering the surface of the metal while in the ladle, substantially in the manner described, in order to lessen the escape of heat therefrom.

Seventeenth, coating the paddle or agitator with loam or other slow conductor of heat, substantially as and for the purposes described.

Eighteenth, connecting the ladle with the crane arm or other mechanism by which such ladle is supported by any suitable means that will enable the contents of the ladle to be weighed, substantially as and for the purposes described.

Nineteenth, the mode of attaching the casting ladle to and detaching it from the crane arm or lifting apparatus, substantially as described.

No. 51,400.—HENRY BESSEMER, London, England.—*Manufacture of Malleable Iron and Steel.*—Patented in England January 13, 1863.—This invention consists of a furnace with a revolving hearth, on a spindle, the whole being connected with steam boilers.

Claim.—First, the employment of furnaces, having a revolving hearth or bed for heating or retaining the heat of ingots, blooms, or other masses of malleable iron or steel.

Second, heating the whole or a portion of a boiler by means of causing the heated products of combustion from the furnace to pass or to be transmitted to the boiler through an arch or diaphragm, either solid or perforated, substantially as and for the purposes described.

No. 51 401.—HENRY BESSEMER, London, England.—*Manufacture of Malleable Iron and Steel.*—December 5, 1865; patented in England November 5, 1863.—This invention relates to improvements in effecting the refining of cast iron by the process patented to the same, November 11, 1856.

Claim.—First, in the manufacture of malleable iron and steel, the employment in the converting vessel of a portion of the charge of pig or refined iron in a solid and unmelted state, when placed to be heated and converted in the same compartment of such vessel, in combination with another portion of crude iron in a fluid state, in the manner and for the purposes described.

Second, in the manufacture of malleable iron and steel, the employment in any suitable vessel of a portion of the charge of pig or refined iron in a solid and unheated state, in combination with another portion of crude iron in a fluid state, substantially in the manner and for the purposes described.

Third, the manufacture of cast steel and cast malleable iron by mixing and combining molten carburet of iron with other iron or steel which has been refined, or partially refined, by puddling, but which has not been manufactured into finished steel, when the fusion of such refined, or partially refined, iron or steel is effected by forcing atmospheric air and other gaseous matters into the said molten carburet of iron.

Fourth, heating or melting iron in the converting vessel by heat derived from the fuel employed preparatory to the commencement of the converting process for heating or drying such vessel.

Fifth, the application to the heating or melting of iron in the converting vessel, either by solid or gaseous fuel, of the same apparatus which forces or conducts air or gases into such vessel, for the purpose of carrying on the converting process therein.

Sixth, constructing a tuyere box in such a manner that the air may at will be admitted to, or excluded from, one or more of the tuyeres, substantially as and for the purposes described.

Seventh, converting iron, in a suitable vessel, by means of carrying air or other gases through suitable apertures, into such vessel, for the purpose of heating or melting the iron therein, in combination with carrying air or other gases by suitable apertures among the particles of said iron, for the purpose of effecting the conversion thereof.

Eighth, combining with a converting vessel a perforated plate, either covered or not covered, with a suitable porous fabric, or its equivalent, substantially as and for the purposes specified.

Ninth, the mode herein described of securing the tuyeres to the tuyere box.

Tenth, using the ring K, of any suitable material, or its equivalent, for the purpose of defining the size of the opening or the line of fracture in that part of the converting vessel where the tuyeres are inserted, substantially as described.

Eleventh, setting one or more tuyeres in a mass of ganister or other suitable material, in such manner that they may be attached to, or removed from, a converting vessel without taking off the bottoms of such vessel, substantially as and for the purposes described.

Twelfth, the employment of a partial vacuum for drying or consolidating the materials employed in setting tuyeres in converting vessels.

Thirteenth, the mode, substantially as described, of strengthening a tuyere by a central iron rod, and thus holding the parts thereof together when fractured.

Fourteenth, in the manufacture of malleable iron and steel, passing the atmospheric air to be employed in the conversion through, and in contact with, acid or alkaline solutions or hydro-carbons, prior to the passage of such air into the converting vesssl.

No. 51,402.—CHRISTOPHER BRAKELL, Lancaster, England.—*Cotton Gin.*—December 5, 1865.—This invention consists in the employment of a roller knife, in combination with the gin roller, and doctor or pressing knife, the roller knife having fixed thereon a series of circular plates or disks, the edges of which come nearly in contact with the edge of the doctor or pressing knife, and also with the surface of the gin roller, in such a manner as to cause the seed and refuse to be beaten off, and at the same time to cause the fibres and seeds to be moved to and fro along the edge of the doctor or pressing knife.

Claim.—The arrangement of the roller knife *b*, with a gin roller *a*, and pressing knife or doctor *d*, as herein described.

No. 51,403.—FRANÇOIS HAECK, Brussels, Belgium.—*Apparatus for Distilling Spirits and other Liquids.*—December 5, 1865; patented in Belgium January 5, 1864.—The object of the first part of this invention is to separate the watery particles, which are carried off mechanically with the vapors from the still. The device for this is called a "separator," and is composed of a number of shallow chambers, through which the vapors are made to pass before entering the concentrator and condenser: the second and third parts of the invention consist in the combination of the separator with other parts of the still; fourthly, in an arrangement of a series of separators, concentrators, and condensers, with a single

evaporator or still, so that the still may be used continuously whilst the separators are changed; fifthly, it consists in arranging the connections of the several concentrators radially to the evaporator, so as to obtain a uniform product from each of the separate members of the series.

Claim.—The separator, herein described, consisting substantially of a series of chambers connected with each other by vapor passages and liquid escape pipes, and fitted with openings for the entrance and escape of vapor and liquid, so that the vapor is caused to circulate horizontally and slowly through the chambers in which the watery particles, mechanically mixed with the vapor, are permitted to deposit.

Also, the combination of the said separator with an evaporator and a condenser of the vapor, so that the vapor produced by the evaporator is caused to pass through the separator before condensation, substantially as set forth.

Also, the combination of the said separator with an evaporator and concentrator, so that the vapor produced by the evaporator is caused to pass through the separator before concentration, substantially as set forth.

Also, the combination of a single evaporator with a series of apparatus for operating upon the vapor, so that one or more of the latter may be worked intermittently while the evaporation is worked continuously, substantially as set forth.

Also, the arrangement of a series of apparatus for operating upon the vapor of a single evaporator radially around said evaporator, substantially as set forth.

No. 51,404.—JOHN HOLLIDAY, Huddersfield, Great Britain.—*Manufacture of Coloring Matter.*—December 5, 1865.—This invention consists in treating the dye, commonly known as "cotton violet dye," with water or with an alkaline solution which precipitates the coloring matter. This precipitate is washed and dried, and is then ready for use. The tint of the dye may be varied by dissolving said precipitate in methyl alcohol, and adding sulphuric, nitric, or muriatic acid, and then precipitating the coloring matter by means of water.

Claim.—The precipitating of the coloring matter from aniline cotton violet dye, purifying as herein specified.

No. 51,405.—J. G. JONES, Monmouthshire, Wales.—*Coal Mining Machinery.*—December 5, 1865; patented in England February 1, 1864.—This invention consists in a method of combining a steam-engine mounted on a carriage with a pick, for the purpose of tunnelling, mining, &c.

Claim.—First, the combination of the cylinder *d*, carrying the bearings *c' c'* of the shaft or axis *c*, with an engine on a carriage, substantially as above described.

Second, the combination of the pistons with the valve by the tappet *n* and lever *o*, substantially as herein described.

Third, the slotted end of the piston rod *b*, acting on the axis *c* by a crank arm, substantially as described.

No. 51,406.—A. C. WILLIAMS, assignor to J. H. SHEAR and JOSEPH PACKARD, Albany, N. Y.—*Cooking Stove.*—December 5, 1865.—This invention consists of a portable ash-pan into which fits a sifter. The pan has a bail, and may be fitted closely into the box seat of the stove, so that one edge comes into the rebate in the inclined plate under the grate. Between the ash-pan and the front of the oven, or its surrounding flue, is a hot-air space.

Claim.—First, the portable ash-pan, with sifter and bail, in combination with the box seat, into which it closely fits, and the inclined plate D, substantially as shown and described.

Second, the hot-air chamber F, between the ash-pan and the front of the oven or its surrounding flue, formed and operating substantially as and for the purpose described.

No. 51,407.—JOHN E. PARK, Seguin, Texas.—*Tanning.*—December 5, 1865.—This invention consists in the use of the bark and wood of the mesquit tree for tanning. The trunk and large limbs of the tree are cut into chips by means of a circular saw, and the small branches by means of knives. The chips thus formed are put into a vat heated by a furnace, by means of which the tanning is extracted.

Claim.—The tanning material and extractive matter of the mesquit wood, live oak, or chestnut applied to the tanning of leather, prepared in the manner described and for the purpose specified.

No. 51,408.—J. P. ADAMS, Whitney's Point, N. Y.—*Butter Worker.*—December 12, 1865.—This invention consists of a double frame, one part swinging within the other, and having a bowl secured thereto in such a manner that as the frame is swung forward the milk and water expressed from the butter are discharged. The other or outer frame is provided with a spring for the purpose of keeping the inner frame in position until the bowl is ready for emptying.

Claim.—The arrangement of the frame A, the spring *d*, and the swinging frame D, substantially as and for the purpose specified.

No. 51,409.—J. C. and A. B. ALLERTON, Aztalan, Wis.—*Stove-pipe Damper.*—December 12, 1865.—This damper is made or cast in one piece; on two opposite sides the edges are bent at right angles with the main plate and parallel with the axis, forming s slight depres-

sion on either side, in each of which is a slat of near its full size; and again this edge is bent so as to bring it into a plane parallel with the main plate, and thus the periphery of the damper is nearly equal to the internal circumference of the pipe.

Claim.—The arrangement of the damper A, with the strips *c* formed at right angles thereto, connecting the offsets D with the centre C, in combination with the openings *f f'*, being a new article of manufacture, as and for the purpose set forth.

No. 51,410.—JAMES B. AYER, Malden, Mass.—*Lock Key Fastener.*—December 12, 1865.—This device consists of a rectangular plate pivoted at its upper end to the escutcheon at a point above the key-hole. This plate has a notch in one of its lateral edges, which, when the plate is hanging vertically, embraces the stem of the key; and there is also hinged to said plate a broad arm or trap, which, when raised up to a horizontal position, will extend outward and rest upon the bow of the key, and thus prevent the latter from being turned.

Claim.—The supplementary escutcheon B, above described, provided with a hinged leaf capable of being raised and locked in a horizontal position, the several parts being made and applied substantially as above set forth.

No. 51,411.—THOMAS IVES BAILEY, Nashville, Tenn.—*Illuminating Public Clock.*—December 12, 1865.—This invention consists in placing lights upon the hands or pointers of a clock instead of behind the dials, which is accomplished by making the spindles and sockets that carry the hands in part hollow, so that a stream of gas may be conveyed through said spindles to the centre of the dial and to the extremities of the hands.

Claim.—First, the combination of the tubular hands J K, tubular spindle A, and flexible tubes F, arranged to operate substantially as and for the purpose set forth.

Second, the plugs B and M and bosses C, when used in the manner and for the purpose set forth.

Third, the chamber *x*, formed in the hour-hand socket, the ears *b* on the bosses C, and the bracket or fixture D, for the purpose specified.

No. 51,412.—H. B. BECKMAN, Newburyport, Mass.—*Automatic Stop Motion for Steam Engines.*—December 12, 1865.—This invention consists of a ball attached to a hinged arm, and connected with the valve of a steam-engine in such a manner that when the said arm is turned up in a vertical position the valve is open, and the supply of steam is not interrupted, but when the speed of the engine exceeds a certain limit the ball tilts over, and the valve is closed automatically, and thus the engine is stopped.

Claim.—The arrangement of the lever *g*, springs *b b*, toes *a*, and tappets *f*, in connection with the ball *k*, for the purposes herein described and represented.

No. 51,413.—JAMES R. BECKWITH, New Orleans, La.—*Machine for Separating Fibrous Plants.*—December 12, 1865.—This invention consists in the combination and arrangement of the nippers, jaws, and a reciprocating table, connected by rods to a lever, by which means they are operated. The material is placed upon the table, brought between the presser, seized by the nippers, and drawn through; thus the pulp is separated from the fibre.

Claim.—First, the use of self-acting nippers, in combination with suitable stripping jaws, constructed and operating substantially as and for the purpose described.

Second, the combination of the self-acting stripping teeth with the stripping jaws, substantially as and for the purposes set forth.

Third, the reciprocating table in combination with the stripping jaws and nippers, constructed and operating substantially as and for the purpose specified.

Fourth, the self-acting curved clearing arm, in combination with the nippers, constructed and operating substantially as and for the purpose set forth.

Fifth, the application of the self-acting spring dog, in combination with the stripping teeth, constructed and operating substantially as and for the purpose described.

Sixth, the use of a curved elbow lever *g' h'*, in combination with the stud *r*, lever F, chain *f'*, and spring dog *e'*, constructed and operating substantially as and for the purposes specified

No. 51,414.—LEWIS BILLOU, Brooklyn, N. Y.—*Watch Escapement.*—December 12, 1865; antedated August 28, 1865.—This invention consists of two escapement wheels so arranged on an arbor, one being fast and the other loose, and so combined with a rest-piece and a table-roller, that the motive power has no direct influence on the impluse which the balance receives from the wheel of escapement, for the reason that the wheel which gives said impulse to the balance gets its power only by means of a spiral spring; the other wheel fixed to the arbor serving only to rest against the rest-piece.

Claim.—The combination of the cylinder or rest-piece C, the wheels A and B, and table-roller D, constructed and operating substantially as described for the purpose set forth.

No. 51,415.—GEORGE F. BLAKE, Boston, Mass.—*Water Meter.*—December 12, 1865.—In this invention two cylinders parallel and attached to each other contain oscillating plungers driven by a stream of water passing through the apparatus, which plungers operate two valves, one on the bottom of each cylinder. These valves reciprocally control the movements of the plungers respectively, the valves and water-ways being arranged with reference to each other,

so that the plungers may not get on centres, but are capable of certain operation when a stream of water is passing, however slowly, through the apparatus. Each stroke of the plunger indicates the passage of a definite quantity of water through the machine, and the number of strokes is recorded by a register of the usual constructions, actuated by one of the plungers in the ordinary way.

Claim.—First, the arrangement of the water-ways in the manner described.

Second, giving to the valves of both cylinders the same size, form, construction, and mode of operation, as and for the purpose specified.

Third, the rod J, arranged as described in relation to the cylinders B C, for the purposes set forth.

Fourth, the arrangement for conjoint operation of the valves, water-ways, ports, and plungers, in the manner set forth, for the purpose of preventing the plungers from getting on centres, as specified.

No. 51,416.—ORVILLE S. BLISS, Fairfield, Vt.—*Weighing Apparatus.*—December 12, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—In weighing apparatus with two beams, having a single suspension and double connection, as described, extending one or both beams beyond the pivots at one end, and graduating such extension for a movable poise or poises.

No. 51,417.—WEBB BROOMHALL, Circleville, Ohio.—*Gate Fastening.*—December 12, 1865.—This invention consists in attaching by hinges to the corner of the stile of a gate which shuts against the post, a shaft in a vertical position, to which are secured wings which swing into notches in the post by means of springs, holding it fast.

Claim.—The catch-plates attached to the vertical axis, adjusted by the bolt operated by the spring, and engaging in the rebate of the post, substantially as described and represented.

No. 51,418.—JOHN BROUGHTON, New York, N. Y.—*Gauge Cock.*—December 12, 1865.—This invention consists in making the body or globe of a gauge cock detachable from that part containing the seat, and in applying to the stem of the valve a series of wings in such a manner that by removing said detachable globe the operation of regrinding the valve is considerably facilitated, the wings on the stem serving as guides which keep the valve square in its seat while being ground.

Claim.—The detachable body or globe C, in combination with the shank B, of a gauge-cock, and with a valve, the stem of which is provided with wings *b*, substantially as and for the purpose set forth.

No. 51,419.—JOHN BROUGHTON, New York, N. Y.—*Lubricator.*—December 12, 1865.—In this invention a globular cup receives a narrow cylinder, which is so pointed as to fit into and close the tube at the bottom leading to the journal. Near the lower end of the cylinder are holes to permit oil to flow into the globe. At the highest point of the cylinder within the globe space there is a hole to permit the escape of air when the cylinder is down and the escape tube closed.

Claim.—First, The combination of the reservoir A, having a central discharge passage C, with the open tubular spindle D, when said spindle is provided with openings *f* and *g*, and a solid, pointed end fitting the passage *c*, substantially as and for the purpose above described.

Second, The combination of the locking collar H, with the reservoir A, and tubular spindle D, constructed and operated substantially as and for the purpose above described.

No. 51,420.—JOHN BULLENE, Chicago, Ill.—*Combined Rein and Back-strap Holder.*—Antedated November 29, 1865.—This invention consists in a metallic plate to which the other parts are attached; the check-rein hook is placed before the plate, between said hook and the rear part of the plate. There is a guard attached to the latter by means of a joint; at the other end of the guard there is a loop through which the check rein is passed before being put over the hook.

Claim.—The arrangement and combination of the parts E and D, with the loop or part *h*, substantially as described and for the purposes set forth.

No. 51,421.—MELLEN BRAY, Boston, Mass.—*Machinery for Forming Sheet Metal Ware.*—December 12, 1865.—In this machine a stationary female die is so arranged that its outer edge shall form a cutting die against which another female movable cutting die moves up and cuts out a disk to form a basin; the upper surface of the cutting die also presses the disk up against the outer rim of the stationary die, while the forming die moves up through the female cutting die and forms the blank into the stationary forming die. The movements of these dies are effected by means of toggle joints of peculiar construction.

Claim.—First, the arrangement of the dies, plungers, and machinery for operating the same, all substantially as herein described, for cutting blanks from sheets of metal, and shaping the same into various articles of use at one operation.

Second, the method of giving to the holding surfaces a relief motion to prevent the in-

creasing thickness of tin, caused by being drawn in by the forming die, from increasing the pressure of holding surface, and thereby tearing the tin asunder.

Third, in machinery for cutting and shaping metal, operating the cutting dies by means of forming the toggle-joint, when actuated through the intermediary of connecting rods or links, by vibrating cams expansible, substantially as and for the purposes set forth.

Fourth, in machinery for cutting and shaping metals, operating the forming die by means of levers forming the toggle-joint, when the same are actuated through the intermediary of an adjustable connecting rod, by a vibratory crank, the crank-pin of which is adjustable, substantially as and for the purposes set forth.

No. 51,422.—O. R. BURNHAM, New York, N. Y.—*Bungs.*—December 12, 1865.—This invention consists in so arranging the bung as to form three distinct and separate joints, first by the threads of the screw, second a shoulder between the screw and the flange, and third by the under side of the flange being curved downward so as to be drawn down tightly into a groove previously formed in the wood around the bunghole. The inner end of the bung is made hollow so as to save material.

Claim.—First, the curved flange E, with its edge *b*, constructed substantially as and for the purpose above set forth.

Second, The combination in a bung of the three separate and independent joints formed respectively by the screw threads on its body, the shoulder *a* under its flange E, and the circular edge *b* of the said flange, substantially as and for the purpose above described.

Third, reducing the weight of metal required for a bung by constructing said bung with a cavity F, substantially as described.

No. 51,423.—MARCUS L. BYRN, New York, N. Y.—*Broom or Brush.*—December 12, 1865.—This invention consists of forming a broom or brush of corn husks prepared in strips and united to a head or socket by wire and cement.

Claim.—A broom or brush made of bundles of corn husks secured together at one end by glue or cement and placed within a metal head, and secured by wire or sewing, as set forth, and provided with a metal socket for the handle, as specified.

No. 51,424.—GARDNER CHILSON, Boston, Mass.—*Coal Stove.*—December 12, 1865.—In this invention the fire-pot is an inverted frustum with a series of lance heads on its exterior surface. The dome connected by screw-bolts to the fire-pot is a conic frustum, and opens into a smoke chamber surrounded by a circular cap or platform, which projects about as far as a fender surrounding the fire-pot at its junction with the dome. The dome is made with a series of annular horizontal corrugations having a nearly vertical surface.

Claim.—First, the improved stove as made with the conical dome, the boiler chamber or smoke flue, and the projecting cap or platform, arranged together and with the fire-pot, substantially as specified.

Second, the stove as made with the annular fender combined with the fire-pot, the dome, and the cap or platform, substantially as set forth.

Third, the improved conical dome, as made with annular corrugations, arranged as set forth.

No. 51,425.—D. H. CLOCK and F. D. RYAN, Newville, Ind.—*Trace Fastener.*—December 12, 1865.—This invention will be readily understood by reference to the claim.

Claim.—The fixed pronged metallic plate *g*, interlocking with the hame-tug, in combination with the sliding clasp *l*, having spring tongue *m*, arranged together and operating as and for the purpose specified.

No. 51,426.—JEREMIAH CLOSE and IRA BUCKMAN, jr., BROOKLYN, N. Y.—*Hinge.*—December 12, 1865.—This hinge is constructed with three leaves and two pintles, each pintle being made with a cylindrical cavity, in which is inserted a spiral spring for operating the leaves, allowing the door to swing either way.

Claim.—The centre plate B, having a hinge joint on both edges, in combination with the sleeves *d d*, the springs *f f*, and outside leaves A, A2, substantially as and for the purposes herein specified.

No. 51,427.—HENRY A. COOKE, Charlestown, Mass.—*Bed Bottom.*—December 12, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, the combination as well as the arrangement of the cams or inclines *d f*, the supporters C D, and their annular springs F, with the bedstead frame and with the bed bottom, constructed of the longitudinal slats and the traverse bars arranged together as specified.

Second, the combination of the two cross bars *b b*, their supporters C D, and their springs F, with the series of longitudinal slats and with the bedstead frame, arranged as specified.

No. 51,428.—JOHN COPELAND, Quasqueton, Iowa.—*Cultivator.*—December 12, 1865.—This invention consists in the attachment to cultivator beams of levers crossing each other and working on the pin that connects them together, and made adjustable by means of a perforated bar secured to one of the levers and passing through a slot in the other, the perforations in the bar receiving a pin to allow of its expansion and contraction as required.

Claim.—The two cross levers H H, connected by a pin *a*, and applied to the plow beams B B, to operate in the manner substantially as and for the purpose herein set forth.

Also the combination of the levers H H, perforated bar J, lever K, and pin *g*, arranged to operate in the manner and for the purpose specified.

No. 51,429.—M. C. CRONK, Auburn, N. Y.—*Bed Bottom.*—December 12, 1865.—This invention consists of slats and an elastic webbing secured by eyes and bolts.

Claim.—The arrangement of the eye C, the webbing *e*, the bars D, the rods *i*, and the short rods S, the whole constructed and operating as and for the purpose herein set forth.

No. 51,430.—JOHN W. DIXON, Philadelphia, Penn.—*Apparatus for the Manufacture of Paper Pulp.*—December 12, 1865.—This invention consists of a digester provided with a man hole, and a perforated diaphragm near the top, and another near the bottom. Below the diaphragm at the bottom is a coil of pipe which communicates with a steam boiler. The upper and lower parts of the digester communicate by means of tubes with a rotary pump, by which the water in said digester is caused to circulate from the bottom to the top of the digester. A pipe from the lower part of the digester passes through a tank in the form of a coil, and the said tank communicates with the pipe, connecting the upper and lower parts of the digester, by means of a tube.

Claim.—The combination of the pulp digester A, the steam or hot water heating coil F G H I K, and the circulating pump for throwing the digesting liquid continuously from the bottom to the top of the material to be pulped.

Second, the combination of the lower perforated diaphragm, the heating coil and the circulating pump and tubes.

Third, the combination of digester A, and the circulating pump 4, and the heating chamber D, whereby the heated refuse liquid coming from the digester is made to heat the fresh water which is forced in to supply its place.

No. 51,431.—JOHN W. DIXON, Philadelphia, Penn.—*Apparatus for the Manufacture of Paper Pulp.*—Deecmber 12, 1865.—This invention consists of a digester provided with perforated diaphragms near the top and bottom, and connected at its upper and lower ends with a coil which is placed within a furnace. Between the lower part of the digester and the coil is a rotary pump, by means of which the water is caused to circulate. A pipe extends from the lower part of the digester through a tank which communicates with the coil by means of a tube.

Claim.—First, the combination of the paper pulp digester, and the heating chamber in which the refuse liquid escaping from the digester is made to heat the fresh liquid to be forced into the digester.

Second. The combination of the paper pulp digester, the pump for circulating the digesting liquid, and the coil F for heating the liquid while circulating, and the chamber for heating the fresh liquid, by the escaping refuse liquid, arranged and operating substantially as described.

No. 51,432.—JOHN W. DIXON, Philadelphia, Penn.—*Process for Making Paper Pulp from Cornstalks.*—December 12, 1865.—This invention consists in subjecting the stalks to the action of a current of highly heated water in a close vessel, the waste water and gummy matters being passed through a coil situated within a tank in such a manner that the water contained in said tank will be heated by the refuse materials, preparatory to being used in the digester for treating fresh material.

Claim.—The process of making pulp from cornstalks by digesting them in highly heated water under pressure, substantially as described.

No. 51,433.—JOHN W. DIXON, Philadelphia, Penn.—*Process for making Paper Pulp.*—December 12, 1865.—This invention consists in subjecting the raw material to the action of a current of hot water under pressure, the refuse gummy matters and water being passed through fresh water in such a manner that it will be heated preparatory to being used for further treating the material.

Claim.—The process of treating wood, straw, and similar vegetable substances by forcing highly heated water under pressure to circulate continuously through the mass to be pulped by means of a pump as a process or preparatory process for making paper pulp, substantially as described.

No. 51,434.—H. W. DOPP, Buffalo, N. Y.—*Seal Lock.*—December 12, 1865.—This invention consists of a metallic bow with a mortise through each end, and with a perforated lug projecting from its outer edge. A metal bar with a shoulder on one end to keep it from slipping, passes through the two mortises, thus forming the chord; and a seal of soft metal is applied to that end of the bar which has no shoulder, a hole in the bar being provided for that purpose.

Claim.—The combination of bow A, slot holes B *b* and bolt C, together with soft metallic seal *d*, as and for the purpose described.

No. 51,435.—DANIEL DRAWBAUGH, Eberle's Mills, Penn.—*Nail-plate Feeder.*—December 12, 1865.—In this invention the shaft carrying the tongs is operated by a couple of side-arms, arranged parallel with it and secured to a sleeve a short distance from the tongs; the other ends of these rods are secured to wings and the shaft slides through these two connections; a swinging post operated by a cam pushes against the said sleeve, forcing it and the tongs away from the cutters against a spiral spring, at the same time the two wings pass through spiral wings which turn the feeding shaft over, when the spiral springs force it back to the cutters again; at the same time a nut, through which the upper end of the feed shaft screws feeds the shaft, carrying the plate up far enough for the succeeding nail.

Claim.—The arrangement and combination of the revolving feeder N, with its rods R, wings S, three flanges T, dies V, and oscillating upright K, as herein described and for the purposes set forth.

No. 51,436.—JAMES DOWNIE, Paterson, N. J.— *Cloth, the Weft of which is made of Hair, Grass, &c.*—December 12, 1865.—By this invention hair and similar cloth may be made of any width desired, instead of being limited by the natural length of the hair or straw used as weft. The weft is made by a machine patented to James Downie, July 18, 1865, No. 48,796.

Claim.—A cloth, formed with selvedges and woven with a hair or grass woof, made by overlapping the ends of the fibers of hair or grass upon each other, along or around and parallel with a central or guiding thread, and wound, bound, or wrapped with a winding, binding, or wrapping thread, substantially as described and to the effect set forth.

No. 51,437.—W. F. DRAPER, Andover, Mass.—*Device for Casting Stereotype Plates.*—December 12, 1865.—This invention consists in the arrangement of a stationary and movable clamp, forming a mould for casting stereotype plates.

Claim.—The arrangement of the bed A, the frame B, journalled on centres *i*, the platen D, plates C C′, and screw F, operating substantially as and for the purpose described.

No. 51,438.—ELIJAH F. DUNAWAY, Cincinnati, Ohio.—*Machine for Weighing Grain.*—December 12, 1865.—This invention consists of a scale which automatically weighs grain and registers the amount weighed; it also weighs any given or desired amount of grain and keeps its own record.

Claim.—The combination of the scale boxes D and E with the rods 7 7, working the apron springs 2 2 and the upright rod *z*, connecting with the extension of the scale beam H, when arranged as herein described and for the purpose set forth.

Second, the arrangement and combination of the register wheels R S T with their pins operating each other, check W, and springs X and Y, as herein described and for the purpose set forth.

Third, the combination of the rod P, pawl 2, and arm N, when arranged as herein described and for the purpose set forth.

No. 51,439.—RICHARD EGAN, Brooklyn, N. Y.—*Shoemaker's Burnisher*—December 12, 1865.—This invention consists of a burnisher with a movable head, a metallic socket, and a handle, so constructed that it will not be easily injured when the instrument is heated for use.

Claim.—As a new article of manufacture the shoemaker's burnisher, consisting of a movable head A, metallic socket B, and handle C, all substantially as herein described.

No. 51,440.—W. H. ELLIOT, Ilion, N. Y.—*Many-barrelled Fire-arms.*—December 12, 1865.—In this invention the hammer is provided with an oscillating point or face which is moved by a ratchet on the axis pin of the said hammer at each cocking of the same, so as to give an alternating motion to the said oscillating point and thereby enable it to strike upon two different chambers of the fire-arm successively.

Claim.—First, an oscillating firing pin, when pivoted to the hammer and operated by a cam, substantially as shown and described.

Second, so constructing and operating the cam and firing pin that they shall serve the purpose of ratchet and pawl, substantially as and for the purpose herein described.

No. 51,441.—LUTHER EWING, Brooklyn, N. Y.—*Gas Stove.*—December 12, 1865; antedated November 30, 1865.—In this invention the gas is conveyed by a flexible tube into a sheet metal cylinder with a perforated top and bottom, and is burned on the upper plate; the cylinder is surrounded by a cone-shaped casing, and that in turn by the outer casing of the stove; in the upper part of the stove are three concentric cylinders, so arranged that when the products of combustion escape from the burner they are made to pass backwards and forwards in a sinuous route before finally making their escape at the perforated top of the stove.

Claim.—The combination of the conical draught tube B, cylinder C, perforated or reticulated plates *b b* E, and inclined bottom plate *d* of the concentric cylinders F G H, all the said parts being constructed and arranged to operate as herein specified.

No. 51,442.—MOSES G. FARMER, Salem, and H. JULIUS SMITH, Boston, Mass.—*Thermo-electric Battery.*—December 12, 1865.—In this invention the negative bars, consisting of an alloy of antimony and zinc, are found to be very brittle, and to prevent their being broken are cast over a core of enameled metal, steel being preferred. The core stiffens the bar without impairing its thermo-electric properties, the vitreous enamel serving to insulate it from the steel core.

Claim.—The improved thermo-electric bar, constructed substantially as herein described, viz., by the addition of some supporting material, more tenacious and less liable to be broken than the bar to which it is applied.

Also the employment of an insulating coating applied to the supporting rod or wire, for the purpose substantially as set forth.

No. 51,443.—JAMES M. FRENCH, East Cambridge, Mass.—*Spring Slats for Bed Bottoms.*—December 12, 1865.—This invention consists in so constructing a slat for a bed bottom that a joint is formed between the part that rests upon the side rails of the bedstead and the body of the slat; a piece of India-rubber gives to the slat the desired springing motion.

Claim.—Making a joint at each end of a bed slat, or attaching arms substantially as described, said joints being capable of receiving within them a piece of rubber or a spring, substantially as and for the purposes specified.

No. 51,444.—MARTIN GARDNER, Sr., Carlisle, Penn.—*Washing Machine.*—December 12, 1865.—This invention consists in passing short shafts through the sides of the box, which have guides fastened to them on the inside, and which guides receive and retain the rubbing segment, allowing it to rise and fall; it further consists in restraining the descent of the rubbing segment, by means of arms resting upon adjustable eccentrics, whilst said segment is free to rise in yielding to the variable thickness of the clothing beneath it.

Claim.—The short shafts and their guides, connected and combined with the rubbing segment and its ways, so that the segment may be operated from the outside of the box, and be free to rise and fall with the inequality of the clothes being washed, substantially as described.

Also, the adjusting or regulating of the extent of the descent of the rubbing segment while it remains free to rise above that limit, by means of the hinged bearers, eccentrics, and turning and holding ratchet and dog, substantially as described.

No. 51,445.—SMITH GARDNER and AMASA B. HOWE, New York, N. Y.—*Grain-hulling Machine.*—December 12, 1865.—This invention consists in arranging a series of screw disks upon a revolving shaft in a cylinder with as many partitions as there are disks, so that, as the grain is fed into the upper chamber in which the disk works, it will feed the grain to the bottom, where it will be in constant motion until the accumulated pressure forces the floor down, which is held up to its highest position by springs on rods, when the grain is discharged through a recess into the next disk to repeat the operation through the entire series.

Claim.—So arranging and mounting the disks C, and arms D, with the rods or supports F F, springs E E, and the keys in the rods or supports, that the pressure or resistance of the disks may be regulated and adjusted at pleasure throughout the series of disks, when the machine is in motion, substantially as shown and described.

No. 51,446.—CHARLES C. GATES, Albany, N. Y.—*Construction of Screw-propeller Blades.*—December 12, 1865.—This invention will be understood by reference to the claim.

Claim.—The manner of forming the blades by their irregular curves and widths, and unequal thickness of staves, as combined and arranged as specified and for the purpose set forth.

No. 51,447.—EDWIN W. GILMOR, North Easton, Mass.—*Hinge.*—December 12, 1865.—This invention consists of a hinge, constructed with a pintle, having both ends swaged down on the ends of the eye so as to slightly depress its outer surface, the head thereby holding the eye so that it will not spread, it being bent up of sheet metal.

Claim.—A hinge, constructed substantially as described, as a new manufacture.

No. 51,448.—STEPHEN J. GOLD, Cornwall, Conn.—*Sectional Steam Boiler.*—December 12, 1865.—This invention consists in constructing the separate sections, each with the requisite number of flues through them, in such a manner as to form one continuous flue from front to rear of the boiler when any number of sections are joined together: and in forming along the edge or other portion of the section, and around each of the flues, concave passages, which, when placed in juxtaposition, will form cavities for the reception of the packing.

Claim.—First, the construction of boiler sections with partial flues, substantially as set forth.

Second, constructing the ends of said partial flues with concave flanges or projections, substantially as and for the purpose set forth.

No. 51,449.—SIMEON GOODFELLOW, Troy, N. Y.—*Piston Packing.*—December 12, 1865.—This invention consists in the combination of a tapering pin, with the spring lever and the packing rings of the piston. This spring lever is so arranged within the piston head as to

embrace the pin, so that, as the pin is screwed further in, the ends of the lever are caused to recede from each other, and thus press against the ends of the interior cut ring, by which means the packing is distended so as to fill the cylinder.

Claim.—The combination and arrangement of the tapering pin *p*, formed into screw thread and key square, the lever spring *n*, and rings *e f f*, all constructed and applied in the manner and for the purpose specified.

No. 51,450.—ROBERT A. GRAHAM, Greensburg, Ind.—*Horse Rake.*—December 12, 1865.—This invention consists in the use of diagonal rods attached to each end of the rake, to which the draught chains are fastened by means of swivels, so that, when the rake revolves, the swivels slip down this rod, and thus the draught power is always brought near the ground. The two rake heads are also pivoted to the end pieces, so that they may be folded together for convenience in housing.

Claim.—First, the diagonal rod C, applied to the end beams B B, substantially as and for the purpose specified.

Second, the employment or use of the swivel E, in combination with the rod C, substantially as specified.

Third, the manner shown of attaching the rake shafts to the end pieces, whereby the rake may be folded, substantially as specified.

No. 51,451.—LYMAN GRAY, Pittsburg, Penn.—*Bunghole Reamer.*—December 12, 1865.—This invention consists of a tapering pod, having a cutting bit on its side, the bottom end being closed to secure the chips, and open at the top, except a bail, to which is fastened the handle. On one side is an adjustable gauge and index to determine the size of the bore.

Claim.—A tapering hollow pod D, open at the top, or largest end, when said large end, or open top, is surmounted by an arch B and socket for supporting the handle in the manner shown; and in combination therewith, the use of the scale of figures on the outside of the pod, and sliding gauge attached thereto, operating substantially as represented, for the purposes herein set forth.

No. 51,452.—JOSEPH B. GREENHUT, Chicago, Ill.—*Clothes Mangle.*—December 12, 1865.—This invention consists of a large revolving roller, provided with a clamp for the edge of the clothes as they are fed between that roller and the series of rollers that abut upon it.

Claim.—The combination of the central roller B, driven by hand crank, and provided with the clamp S, with the circular series of smaller rollers, provided with their spring adjustments, substantially as described and represented.

No. 51,453.—JOSEPH B. GREENHUT, Chicago, Ill.—*Register for Street Cars.*—December 12, 1865.—By this invention certain mechanism, enclosed in a suitable box or case, is so operated by the conductor, by means of a handle extending through to the exterior of said case, that two indices, one for units and the other for tens, &c., count upon dials the number of fares received, while said receipts are simultaneously announced by strokes upon a bell contained within the machine.

Claim.—First, the combination of the handle I, and disk J, with the ratchet L, pawl K, shaft E, and hand F, arranged as described for registering upon the dial C, in the manner explained.

Second, in combination with the above, the arrangement of the gearing O P, shaft Q, and hand R, for registering upon the dial D, in the manner and for the purpose specified.

Third, the combination of the locking bolt S, spring V, and hole U, for preventing the movement of the hand R when the latter has completed its movement upon its dial.

Fourth, the combination of the rack *a*, pawl *b*, claw *c*, lever *d*, and pin *e*, with the hammer X, substantially as and for the object set forth.

No. 51,454.—WILLIAM H. GUILD and WILLIAM F. GARRISON, Williamsburg, N. Y.—*Valve Gear for Direct-acting Steam Engines.*—December 12, 1865.—This invention consists in the combination and arrangement of steam ports and devices for operating the valve. Directly above the steam chest is placed a supplementary cylinder which contains a piston valve, through the centre of which a lever passes which is fast upon a rock-shaft, which passes through the chest, and is operated from an arm on the piston rod by means of a connecting rod and an arm placed loosely upon the shaft, by which means the valve is moved at the proper time, and through a portion of its stroke. By such partial movement of the valve, ports are opened which admit steam to the outer ends of the pistons in the auxiliary cylinder, which causes the piston to move and act upon the lever, the lower end of which is arranged to act upon the main valve to complete its stroke.

Claim.—First, the cylinder M, with ports *q q'* and *n n'*, communicating with the main valve chest and exhaust pipe and its two contained pistons N N', having ports *m m'*, and connected with the valve C, by means ot the two arms I I' of the rock shaft E, the whole arranged and operating substantially as herein specified.

Second, in connection with the pistons N N', and the valve C, connected by the arms of a rock shaft E, running through the valve chest, the lever F oscillating loosely on the said rock

shaft, connected with the main piston rod, and furnished with projections *t t'*, operating on the toes S S' of the rock shaft, all substantially as herein described.

No. 51,455.—WARREN E. HILL, Brooklyn, N. Y.—*Grate Bar.*—December 12, 1865.—In this invention there is a longitudinal opening through the bar with which air passages in the sides and bottom of the bar communicate.

Claim.—The longitudinal space E, in combination with the transverse air passages G, and adapted to allow the ascent of air between the sides M and N, and its discharge into the spaces at the sides of the bars, substantially in the manner and for the purpose herein specified.

No. 51,456.—HIRAM L. HOWARD, Mendon, Mich.—*Tire-upsetting Machine.*—December 12, 1865.—In this machine there are secured to a bed plate two jaws, one of which is stationary, the other sliding. In the sliding jaw a recess is formed, in which is placed a roller, said roller turning in close contact with a cam. This cam operates the sliding jaw, and is secured to the bed plate by means of a bolt; the cam is also secured by forked stays, which are looped under the bolt nut, and branch off on each side of the jaws.

Claim.—The combined arrangement of the clamping and upsetting jaws A B, cam lever M L, and friction roller R, and stays S S, constructed and connected substantially as described, and the several parts arranged relatively with each other, and with the bench plank C, or other bed sill, in the manner and for the purpose herein specified.

No. 51,457.—JAMES W. INNIS, Milroy, Ind.—*Thill Coupling.*—December 12, 1865.—This invention consists in attaching the thill to the axle in such a manner as to obtain a firm and secure coupling, and one which will admit of the thills being very readily attached to and detached from the axle.

Claim.—A thill coupling for wheel vehicles, composed of an eye E, in which the thill iron F is secured by a pin *b*, the eye being provided with a pendent rod D, which is fitted in a protuberance C' on a clip A, and secured therein by a spring catch G, substantially as and for the purpose set forth.

No. 51,458.—JAMES JACKSON, Woonsocket, R. I.—*Machine for Cutting Wood Gear.*—December 12, 1865.—This invention consists in a frame having adjustable ways upon which are sliding revolving cutters and gauges, the latter bearing upon a pattern which controls the cutters in the shape they cut, so that, by having the pattern of any desired shape of tooth, the machine will cut other teeth by that pattern.

Claim.—First, the combination of the pivoted arms G G, reciprocating slides I, rotary cutters S, and belt T, arranged and operating substantially as and for the purposes specified.

Second, the combination of the adjustable bars H U, and screw rods I V, with the pivoted arms G G, as and for the purposes set forth.

No. 51,459.—E. G. KEARSING, New York, N. Y.—*Method of Preparing Gold for Dental Purposes.*—December 12, 1865.—This invention consists in beating the gold into fine leaves, and moulding it into a cake by pressure.

Claim.—A cake prepared from gold foil, substantially as and for the purpose described.

Also, preparing gold for dental purposes, by beating it out in thin leaves, and grinding or cutting it up in combination with molasses, honey, or other suitable materials, substantially as herein set forth.

No. 51,460.—PATRICK KILLIN, Mount Healthy, Ohio.—*Washing Machine.*—December 12, 1865.—This invention consists in a suspended washboard composed of a series of rollers centrally located in the frame of the machine, about which pass endless bands or belts, and to which are secured round bars which press upon the washboard.

Claim.—First, the adjustable washboard composed of parts E F, and spring *f*, constructed as above described, and for the purpose set forth.

Second, the endless belt *e*, comprising bars *d*, driving drums D, constructed as shown and for the purpose set forth.

Third, the adjustable washboard B, in arrangement with endless belt *e*, and compressing bar *d*, as described, and for the purpose set forth.

No. 51,461.—GEORGE L. KITSON, Philadelphia, Penn.—*Car-coupling.*—December 12, 1865.—This invention consists of a sliding catch, to the rear end of which is attached a spring, bearing against a post permanently secured to the bumper, for the purpose of holding the pin in such a position that, when the link presses the sliding catch, it releases the pin, which immediately drops through the link. The pin has a groove in its lower end, with which the sliding catch inserts itself, and secures it from being accidentally withdrawn.

Claim.—The combination of the sliding catch B with the spring D, in connection with the pin C and groove I, in said pin C.

No. 51,462.—E. KNABESCHURCH, New York, N. Y.—*Coloring and Polishing Wood.*—December 12, 1865.—This invention consists in rubbing into the grain of the wood a solution

of shellac and alcohol, and afterward applying to the wood so treated a solution of aniline in alcohol.

Claim.—Coloring and polishing woods with aniline colors, substantially in the manner described.

No. 51,463.—SYLVANUS KNIGHT, Adel, Iowa.—*Animal Trap.*—December 12, 1865.—In this invention, the box forming the trap is provided with two apartments, separated in the usual way by a hinged grating, or self-closing door. In the first apartment is arranged a revolving shaft armed with vanes or paddles, and actuated by a spring. The animal on entering this first apartment releases by means of a treadle the detent of the revolving vanes, which press the said animal forward, causing him to enter the inner chamber, the said detent immediately checking the further revolution of the vanes. An index on the outside of the trap indicates, by the number of vanes released, the number of animals caught.

Claim.—The arrangement of the case A, furnished with the openings *e* and 12, door *p*, glass *x*, and grooves 13, pieces *b c* and *o*, door *m*, tread *d*, trigger *i*, spring *t*, drums *r* and *s*, cord or chain F, pins *l* and *q*, and index 1 2 3 4 5 6 7 8 9, &c, when used in connection with the wheel consisting of axle *n*, and wings *y*, the whole being constructed, arranged, and operating substantially as herein described and for the purpose set forth.

No. 51,464.—MARSHALL LEFFERTS, New York, N. Y.—*Machine for Punching Paper for Telegraphic Purposes.*—December 12, 1865.—This invention consists of an escapement operated by keys, in combination with a continuously revolving friction mechanism, whereby the machine is made to perform all its movements in harmony, by progressive rotation of the principal parts in one direction, without liability to injure any of the parts, and the operator has only to strike the keys for composing a message. The continuous rotary motion is derived from any desired source, but the operator may, by a treadle and crank, give such motion to a fly wheel connected with the machine.

Claim.—First, the escapement pawl 14, operating substantially as specified, in combination with the revolving friction pulley 2, and shaft g''', for the purposes and substantially as specified.

Second, the bent lever 17, and connection 15 to the escapement 14, in combination with the keys E, for the purposes and substantially as specified.

Third, revolving the type wheel and shaft by a friction pulley, substantially as specified.

No. 51,465.—J. PARKER LINDSAY, New Haven, Conn.—*Wrench.*—December 12, 1865.—This invention consists in making the permanent jaw bar with a rib on the back edge, the whole distance over which the adjustable jaw will slide, to strengthen the bar at that point.

Claim.—Making the bar B of the wrench with a rib, spline, or feather, on its back edge or side, substantially as herein described and set forth.

No. 51,466.—JOHN LOVATT, Newark, N. J.—*Skate.*—December 12, 1865.—This invention relates to skates which are fastened to boots, without straps, and it consists in dividing the foot-rest in the direction of its length into two parts, which are susceptible of a lateral movement.

Claim.—First, dividing the foot-rest of a skate, in the direction of its length, into two parts or sections, which parts are so connected or attached to the supports therefor of the skate, that they can be either moved toward or away from each other, substantially in the manner described and for the purposes specified.

Second, in combination with the above, constructing or forming the outer edges or peripheries of the foot-rest sections, and at suitable points thereof, with raised clamps *g g*, substantially as and for the purpose described.

Third, in combination with the longitudinally divided skate foot-rest, having side clamps *g g* of the fixed rest pin or stud G, for the front of the boot or shoe heel, substantially as and for the purpose specified.

No. 51,467.—L. M. MAYOTT, Springfield, Mass.—*Lock.*—December 12, 1865.—This lock has a cylinder which is rotated by a flat key, the latter on being pushed into the keyhole in said cylinder depressing a series of pins, and thus leaving the cylinder free to turn, and with it the bolt tumbler which lies against the back of the lock case, and is connected with the cylinder so as to turn with it, by a stem or arbor. The bolt tumbler is a circular plate, having a stub projecting from its edge which strikes a corresponding projection on the bolt. The peculiarity of the lock consists in a series of holes in said tumbler plate and pins, of such length, as that when released from the cylinder by the action of the key, to just reach the surface of the tumbler, but not far enough to enter the holes in it, so that whether the pins are pushed in a little too far or not quite far enough, it will be equally impossible to revolve the cylinder and tumbler.

Claim.—First, in combination with a suitable case A B F G, the parts D E H, and pins *a b c d*, when arranged and operating substantially in the manner and for the purposes described.

Second, providing the plate H with one or more holes *m n o p*, for the purpose of fastening the lock when the pins are pushed too far down, as herein set forth.

No. 51,468.—EDWARD M. MANIGLE, Philadelphia, Penn.—*Bottom for Ice-cream Freezer.*—December 12, 1865.—This invention consists in making a flanged bottom of cast-ion, in a single piece, then rendering it malleable, and finally coating it with tin.

Claim.—The herein described tinned, decarbonized, cast-iron bottom for ice-cream freezers, as a new article of manufacture.

No. 51,469.—JACOB B. MASSER, Sunbury, Penn.—*Sash Fastener.*—December 12, 1865.—This invention consists of a serrated wedge-bolt, whose case is attached to the casing of the window, the bolt moving in a slot which becomes shallower as it descends, so as by the downward motion to force the serrated edge against the sash, and clamp it in position.

Claim.—First, the wedge-shaped serrated bolt E, occupying a recess of similar shape in the case D, and operating as described, by employment on the sash to restrain its downward movement.

Second, the arrangement of the locking wedge E, in its combination with the shoulder of the recess H in the sash, and the projection I of the case D.

No. 51,470.—W. C. MCGILL, Cincinnati, Ohio.—*File Holder.*—December 12, 1865.—This invention consists of a light elastic frame, having secured to one of its edges a bar, which presses upon whatever article is being filed, to prevent its escape from the filing apparatus.

Claim.—As an improved article of manufacture, a file holder made and operating substantially as herein set forth.

No. 51,471.—DONALD MCINROY, New York, N. Y.—*Machine for Starching and Glazing Cords, Braid, &c.*—December 12, 1865; antedated December 9, 1865.—By this invention, after leaving the reel on which it is wound and being conducted through a starch or glazing trough, the material passes over and under the convoluted steam-pipe, under tension; thence around and beneath a hollow heated cylinder; thence over a gas-heated chamber, where it is ironed by a reciprocating plate; and thence under and around another hollow heated cylinder; thence back, under the chamber and over the first cylinder. It may be passed back and forth in this manner as often as desired, and is delivered to a spool or reel, whose pull upon the material, as it accumulates by winding, is regulated automatically.

Claim.—First, the convoluted pipe *p*, forming a dryer to the fabric drawn through between the pipes, as and for the purposes specified.

Second, the hollow dryer *d*, and ironer *e*, applied as and for the purposes set forth.

Third, the winding-up reel *i*, actuated by the pulleys, and regulated by the friction strap, as specified.

No. 51,472.—PETER MURRAY, Milwaukee, Wis.—*Grate.*—December 12, 1865.—In this invention, each alternate bar is supported by the imposition of its inclined edge upon the oblique surface of the cross-bars at either end. When the rock bars, which are at either end, and parallel to the supporting bars, fitting into notches in the alternate bars, are moved, they strike against the notches and cause one end of the grate bar to climb upon the supporting bar, while the other end slides down the incline of the supporting bar at that end.

Claim.—The combination of the supporting bars D D, and rocking bars E E, operating substantially as and for the purpose described.

No. 51,473.—GEORGE N. PALMER, Greene, N. Y.—*Combined Horse Rake and Hay Spreader.*—December 12, 1865.—This invention consists in pivoting a frame to the thills, to the rear end of which two rakes are attached, one a little behind the other. This frame is made to vibrate by cam projections upon the main axle coming in contact with the cross-bar of said frame in front, and by this movement the hay is picked up and turned. Rubber bumpers are placed on the thills under the front end of the vibrating frame. When used as a rake the axle is released from turning with the wheels, and the rear rake turned up in the frame, the forward one being discharged by operating the frame by a hand lever.

Claim.—First, the combination and arrangement of the adjustable rear rake H in combination with the stationary rake head I and vibrating frame F F, for spreading or tedding hay, operating as herein described for the purpose set forth.

Second, the spring bumpers *m m* in combination with the balance frame F F and the cams *e e e* on the rotating axle *c*, for operating the tedding apparatus, substantially as and for the purposes specified.

No. 51,474.—F. S. PEASE, Buffalo, N. Y.—*Pump.*—December 12, 1865.—In this invention the pump cylinder is divided by a horizontal diaphragm, and is provided on its top with an elastic air chamber, which is operated by a brake, and assisted in its operation by an inner spring. From this chamber extends downward through the diaphragm a pipe, through which the air is forced and exhausted, and from the bottom of the cylinder a pipe provided with a valve opening upwards extends to the water. From the diaphragm another pipe descends nearly to the bottom of the pump cylinder, and is provided at its top with a valve opening upwards.

Claim.—The elastic air chamber, with its internal expanding spring, in combination with the arrangement of valves and passages, substantially as described.

No. 51,475.—CHARLES PERLEY, New York, N. Y.—*Operating Ordnance.*—December 12, 1865.—This invention consists in an arrangement of a cylinder, plungers, &c., for raising gun carriages, directing guns, &c., by hydraulic agency, the same power being also employed for receiving the recoil as well as for raising the charge preparatory for loading.

Claim.—First, the mode herein specified of elevating a gun or mortar from behind a breastwork or protection previous to its discharge, and the lowering of the same previous to loading by a hydraulic ram and cylinder, as specified.

Second, a hydraulic recoil check, consisting of a plunger acting against liquid in a chamber, from which chamber there is an opening or escape, substantially as specified.

Third, projecting the gun forward by the pressure of a liquid upon a ram or plunger, substantially as specified.

Fourth, adjusting or sighting a gun by means of hydraulic pressure acting upon a ram or plunger in a chamber, substantially as specified.

Fifth, elevating the charge or projectile by a ram or plunger acted on by hydraulic pressure, substantially as specified.

Sixth, connecting the chamber in which the recoil plunger acts with the hydraulic cylinder, substantially as specified, so that the pressure of liquid in the latter shall force the gun forward, as set forth.

No. 51,476.—E. N. PORTER, Morrisville, Vt.—*Hinge.*—December 12, 1865.—This invention consists in securing to an ordinary hinge a projecting piece of metal, of peculiar shape, which bears against a spring, the latter being secured to the gate post. The gate can be held either open or shut by this arrangement.

Claim.—The arrangement and combination of the block J, arms G, and spring K, substantially as described and for the purposes set forth.

No. 51,477.—A. C. RAND, Union Mills, Penn.—*Weather Prophet.*—December 12, 1865.—The seed of a geranium, which is found to coil itself up by the action of moisture, and uncoil when dry, is connected with a shaft, upon which is balanced a delicate diminutive umbrella, so that in moist weather the umbrella shall be raised up over the head of a little figure of a man, to which the shaft is attached, and fall down to a horizontal position when the weather is dry.

Claim.—The use of the seed *a*, or a hygrometer plant, in combination with the umbrella C and figure A, arranged and operating substantially as and for the purpose herein shown and described.

No. 51,478.—W. T. and L. H. RAND, New Hampshire.—*Centring Circular Saw.*—December 12, 1865.—This invention consists in the employment of radial pins suspended in slots cut in the arbor, which are operated upon by a screw with a taper joint, so that as the screw is forced in it presses the radial pins outward against the eye of the saw.

Claim.—In centring circular saws, the combination of radial pins suspended in slots cut in their arbors with a taper-pointed screw, or its equivalent, in the end of the arbor, substantially as shown.

No. 51,479.—JAMES H. REED, Kent county, Del.—*Fruit Slicer.*—December 12, 1865.—This invention consists of a series of removable and radiating knives attached to a hollow mandrel and kept in position by a collar, so that an apple laid thereon may be driven through the slicer by a blow from a mallet, and so divided into as many pieces as required, according to the number of knives used.

Claim.—The combination of the hollow mandrel A, the movable knives and the collar F, constructed and operating substantially as described and represented.

No. 51,480.—RICHARD S. RHODES and EBENEZER WHYTE, Chicago, Ill.—*Process for Preserving Eggs.*—December 12, 1865.—This invention consists in subjecting the eggs to a temperature of 35° or 40° above zero, after which they are packed on one end in barrels containing dry oats, bran, or other like material, at the same temperature. The barrels are placed in an ice house, and are turned over once every seven days, so as to change the position of the eggs.

Claim.—The herein described process for preserving eggs from decay and preserving their vitality, substantially as specified and set forth.

No. 51,481.—PRICE W. ROBINSON, New Bedford, Mass.—*Steering Apparatus.*—December 12, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, the parallel fixed T-shaped guide bars for the travelling nuts, arranged substantially in the manner described.

Second, the knuckle-jointed connecting arms *t*, when used in combination with the revolving nuts working above the head of the rudder post, substantially as described.

No. 51,482.—HORACE ROCKWELL, Roanoke, Ind.—*Cane Stripper.*—December 12, 1865.—This invention consists of a handle with scolloped pieces of metal attached thereto, called

blades or prongs, so constructed as to be used in stripping the leaves from the stalks while the cane is standing in the field, and preparatory to its being cut up and taken to the mill to be ground.

Claim.—The instrument as and for the purpose described.

No. 51,483.—JAMES J. RUSS, Worcester, Mass.—*Scissors Sharpener.*—December 12, 1865.—This invention consists in securing upon one side of a suitable stand an adjustable, polygonal-shaped sharpener plate, so that its edge will project above the top of the stand, in combination with a raised guide for the scissors, which is also adjustable.

Claim.—First, the adjustable polygonal-shaped sharpener plate *d* in combination with any suitable stand therefor, arranged together and operating substantially in the manner described and for the purpose specified.

Second, the combination with the polygonal sharpener plate, secured to a suitable stand, of the adjustable guide *p*, arranged together so as to be adjusted with regard to each other and to the stand, substantially in the manner described and for the purpose specified.

No. 51,484.—SAMUEL T. SANFORD, Fall River, Mass.—*Shingle Machine.*—December 12, 1865.—This invention consists in hanging two sets of reciprocating saws in one frame or sash in such a manner that as the shingle bolt is fed up to the saws one set will be inclined to the left and the other to the right, by means of two upright reciprocating rods hung to the saw bars, and working between guide bars that are attached to the carriage, and inclined towards each other, so that the rod working in one guide carries one gang of saws to the right, and the other rod of the other gang will incline it to the left, and thus cut the shingle to a point.

Claim.—First, giving to each saw or gang of saws a lateral motion by guides *m m'*, or their equivalents, substantially as and for the purpose described.

Second, the use of two gangs of saws in one and the same sash, one in front and the other in the rear, substantially as and for the purpose set forth.

No. 51,485.—LOUIS SCHARFF, Spring Mill, Penn.—*Combined Filter and Cooler.*—December 12, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The vessels A and A′, connected by the tube *a*, having the inlet pipe *b* and outlet *d*, perforated partitions E, and filtering media *x x x x*, all combined and arranged as herein described.

No. 51,486.—D. P. SHARP, Ithaca township, N. Y.—*Horse Rake.*—December 12, 1865.—This invention consists in coiling the tooth about a plate which surrounds the rake head, said plate having loops through which the tooth passes. A stop upon the plate limits the rotation of the tooth upon this plate.

Claim.—The combination of the eyes or sockets *d d d* with the metallic plates *c* and coiled teeth E, all arranged to operate as and for the purposes specified.

Also, the stops *d′* when used in connection with the teeth applied to the rake head, substantially as and for the purpose specified.

No. 51,487.—ISAAC SIPES, Boston, Mass.—*Machine for Washing Leather.*—December 12, 1865.—This invention consists of two or more shafts carrying a number of brooms, said shafts receiving a rotary motion in any suitable way. Water is supplied in any suitable manner, and the leather to be cleansed passes between the brooms, whereby it is effectually washed.

Claim.—First, the employment or use of two or more shafts B B′, carrying a number of brushes D, or their equivalents, and rotated by suitable gearing, substantially as and for the purpose specified.

Second, the pipes F F′, in combination with the brushes D, arranged so as to supply the same with water, substantially as and for the purpose specified.

Third, the covers E E, and roller *b*, in combination with the shafts B, brushes D, arranged substantially as shown and described.

Fourth, the combination of the frame A A′, shafts B, gear wheels C, brushes D, combined and arranged as shown and described.

No. 51,488.—THOMAS SLAIGHT, Newark, N. J.—*Padlock.*—December 12, 1865.—In this lock there is a transversely sliding bolt, the end of which enters from one side the notch in the shackle, and an irregularly shaped tumbler pivoted to the bolt, with a hook upon one end, which enters the notch from the opposite side. The bolt and tumbler have each a pendent arm which extends across the line of the key bit, the latter coming in contact first with the tumbler arm, and then with the bolt arm, thus releasing from the notch first the hook, and then the bolt. The tumbler has a stub on its face which is borne up by a spring against the back edge of the bolt arm, and if by any means the tumbler be turned too far its tail will come in contact with a stub upon the lock plate, and thus prevent the lateral translation of the tumbler, and consequently prevent the withdrawal of the bolt.

Claim.—The sliding bolt C, in combination with a spring or springs E, and one or more tumblers D pivoted to the bolt, and provided with hooked ends *g*, which are arranged in such relation with the eye of the shackle, and the rear or opposite ends arranged in such relation with the stump *b′*, to operate in the manner substantially as set forth.

No. 51,489.—B. L. STONE, New York, N. Y.—*Burglar Alarm.*—December 12, 1865.—A spring or flexible piece of wire is arranged in such relation to the escapement of the clock work in a burglar alarm, that when the cord which connects the said spring with the door or window is slackened, the escapement has free play upon the bell, and not otherwise. There is a locking arrangement for holding the said spring so as to prevent the escapement from operating until the alarm has been adjusted, when the locking arm is withdrawn, leaving the spring free to act as soon as the cord is slackened.

Claim.—First, constructing the clamp H with a hinge joint, to enable it to be folded up close against the back or side of the case, substantially as specified.

Second, the device E *j k l m*, or its equivalent, for holding the rod from operating after the clock work has been wound up, and while the alarm is being set.

Third, in combination with the above, the shaft *f* connected to the rods *e* and *h*, arranged substantially in the manner and for the purposes herein mentioned.

No. 51,490.—GROVE F. STRONG, Onondaga, N. Y.—*Horse Hay-fork.*—December 12, 1865.—This invention consists in suspending the fork by a simple bail, and holding it in working position by spring bolts in the ends of the fork head which comes in contact with the bail; also in withdrawing the two bolts by a lever with a cross-head, to the ends of which the bolts are attached by connecting rods; and also in inserting hooks in the fork head, to which the tripping rope may be attached by a ring, so as to be used for guiding the fork.

Claim.—First, a horse hay-fork, suspended by a simple bail without braces, held in working position by latches at the ends of the fork head, substantially as shown.

Second, in combination with the bail or handle of a horse hay-fork, the latch bolts *g*, constructed and operating substantially as shown.

Third, in combination with the bail or handle of a horse hay-fork, the lever *k*, with the cross-head *i*, and connections *l*, for the purpose of withdrawing the latches and liberating the fork.

Fourth, in combination with a horse hay-fork the hooks *o o* and ring *p*, for the purpose of enabling the tripping cord to be used as a guide rope, substantially as described.

No. 51,491.—J. B. SWEETLAND and E. C. GOODRICH, Pontiac, Mich.—*Basket Machine.*—December 12, 1865; antedated December 5, 1865.—This invention consists of a former of the shape of the inside of the basket, over which the supporting splints are sprung to the shape of the former, and clamped at the bottom, each splint being held by a spring clamp at the top so that each splint can be separately released in weaving in the filling, and fastened at the pleasure of the operator; and it also consists of an adjustable standard which supports the former, and so constructed that the operator can have his work at the right height and angle.

Claim.—First, the employment of spring catcher *a a a*, used in connection with the head D, substantially as and for the purpose herein specified.

Second, the employment of the adjustable staff or standard B, when the same is used in the manner and for the purpose specified.

No. 51,492.—OWEN W. TAFT, New York, N. Y.—*Heater for Skates.*—December 12, 1865.—This invention is designed as an improvement on patent No. 48,601, granted to the same inventor. By means of a suitable ledge on the under side of the foot plate at the fore part, and a catch at the hinder part, the heating chamber is secured to the foot plate, and can be easily detached without removing the skate from the foot. In the heating chamber is an oil vessel, a wick tube and a piece of soapstone, under which combustion takes place.

Claim.—First, so constructing the heating chamber and combining it with the foot plate that access can be had to its interior without removing the foot from the foot plate, as and for the purposes set forth.

Second, the rim or flange *a* extending all around the edge of the foot plate, substantially as and for the purpose described.

Third, the arrangement of the lamp C, and heater D, in combination with the heating chamber B, and foot plate A, constructed and operating substantially as and for the purpose specified.

No. 51,493.—WILLIAM TAPPER, New York, N. Y.—*Bed-bug Trap.*—December 12, 1865.—This invention consists of a long narrow frame, the length being about equal to the inside width of the bed, and the width of the frame about equal to the thickness of the mattress, and made of split willow, ratan, reed, or similar substances, and basket-braided. The corners of the frame have caps to hold the braid in position; the frame is placed at the head or foot of the bed, and the bugs will in the day-time hide in the crevices of the braiding, and the frames can be taken from the bed and jarred upon the floor, when the bugs will fall down and can then be killed.

Claim.—The arrangement and use of a braided frame made of split willow, or its equivalent, for the purpose of acting as a trap to catch bed-bugs, in the manner substantially as described.

No. 51,494.—J. H. THOMAS, P. P. MAST, and THOMAS HARDING, Springfield, Ohio.—*Cultivator.*—December 12, 1865.—This invention consists in the combination and arrangement of two short axles, having each a projection on one end and secured to the main axle, and having their other ends attached to a lever by means of connecting rods, whereby the cultivator may be guided to the right or left as the operator may desire

Claim.—First, the independent short axles E, provided with the projection F, and secured to the main axle B, in the manner shown and described.

Second, the combination of axles E, rods *c*, and levers I, as shown and described.

Third, the lever G, in combination with the lever I, rods *c*, and axles E, arranged and operating as set forth.

No. 51,495.—ANDREW J. VANDEGRIFT, Cincinnati, Ohio.—*Grain Separator.*—December 12, 1865.—This invention consists in the construction of a disk placed at the lower end of the grain tube, and supported by a bearer and shafts placed at right angles, and gearing with each other so as to give the disk a rotary motion by means of a band and pulleys from the main shaft, through the medium of a crank; and by the revolution of the disk the grain is separated centrifugally from all foreign matter that may be mixed with it. And it also consists in providing within the hopper a case which encloses a cross-head, both connected together by an adjustable screw for adjusting the cross-head to regulate the amount of grain designed to pass through the tube.

Claim.—First, the attachment of wings to a fly wheel, in such a manner as to form a fan and fly wheel in combination, having the same set of arms and hub in common, thus constituting, in combination, a device to perform the double office, acting as a regulator of motion, or distributor of power, and at the same time constituting an efficient exhaust fan, constructed in the manner and used for the purpose substantially as set forth.

Second, peculiarly constructed lever U, shaft K, wheels *f f*, shaft L, or their equivalents, when located at the mouth or lower end of flue N, in such a manner as not to form a material obstruction to the air rushing into said flue, and to transmit motion to dish or disk M, or its equivalent, without the necessity of extending a shaft up through tube Q, when arranged in the manner and for the purpose substantially as set forth.

Third, case T, thumb screw *h*, cross-head *g*, connecting rods S S, when arranged in hopper *p*, in the manner and for the purpose substantially as set forth.

Fourth, crank A2, shaft B, wheel C, pinion D, shaft E, combined fan and fly wheel F, pulley H, pulley I, bearing U, shaft K, gear wheels *f f*, shaft L, plate or disk M, curb O, feed tube O, slip joint R, with connection rods S S, cross-head *g*, thumb screw *h*, and case T, all arranged relatively with each other, combined and operated in the manner and for the purpose set forth.

No. 51,496.—LAWRISTON TOWNE, Providence, R. I.—*Steam Engine.*—December 12, 1865.—This invention consists in combining a liberating valve gear having a fixed point of cut-off, with steam ports of variable areas of opening, depending upon the velocity of the engine. To effect this the induction valves are placed in the steam chest, and are operated by the liberating valve gear and the cut-off valves, which are of that description known as plug valves, are placed in the ports leading from the chest to the cylinder, and are controlled in their movements by the action of the governor so as to present different areas of opening as the necessities of the engines require.

Claim.—Regulating the velocity of steam engines by combining a variable steam port with a liberating valve gear, substantially in the manner described.

No. 51,497.—S. O. VAUGHAN and P. W. T. VAUGHAN, De Kalb, Ill.—*Pruning Knife.*—December 12, 1865.—This invention consists in the arrangement of a cutting blade on a suitable bed plate, which has its outer end of a hooked shape to receive the twig and retain it during the cutting operation; the knife is so arranged as to work on friction rollers by means of a handle with hinges or pivots.

Claim.—The link C, and friction rollers *e e*, in combination with the cutting blade B, bed plate A, and lever *a a*, substantially as herein shown and described.

No. 51,498.—R. VOLLSCHWITZ, New York, N. Y.—*Lock.*—December 12, 1865.—This invention consists in certain locking mechanism enclosed within a small case which may be attached to a plate of any size, and be made to operate a bolt of any size and length, the lock bolt being connected to an auxiliary bolt by two pins on the end of the latter, which pass through corresponding holes in the end of the former.

Claim.—The case C, with the mechanism for locking and unlocking, in combination with the lock plate A and bolt B, all constructed and arranged substantially as and for the purpose described.

No. 51,499.—HENRY M. WALL, Niles, Mich.—*Chalk Holder for Billiard Tables.*—December 12, 1865.—This invention consists of a clamp, of sheet metal, for holding a piece of chalk preferably square in shape, which fits into a socket in the bottom of a stock of bell-form. The stock is attached to a billiard table, and is provided with a screw passing into the clamp, by turning which the chalk is moved upward as may be desired.

Claim.—An improved device for holding chalk for billiard tables and other purposes, consisting of the stock A, provided with a suitably formed socket B, in combination with the clamp holder *f*, and adjusting screw *m*, substantially as set forth.

No. 51,500.—LORENZO WALLACE, Leavenworth City, Kansas.—*Machine for Raking and Bunching Hay.*—December 12, 1855.—In this invention an adjustable rake is attached to the front part of the machine which gathers up the hay, when it is taken by an elevator and carried upward and to the rear of the machine, where it is discharged into a receiver pivoted to the frame. A beater, operated vertically from one of the rear wheels by means of a lever, pawl, and rack, compresses the hay in said receiver. One side of the receiver swings open like a door, and when the receiver is full it is inverted, the hinged side swung back, and the load is received upon a discharging rake directly underneath, which is then lowered, and the bunch slips off and is left upon the ground.

Claim.—First, the rake C, in connection with the endless elevating apron I, and clearers U, placed or arranged in a mounted frame, substantially as and for the purpose set forth.

Second, the receiver J, suspended or hung upon pivots, when used in connection with the rake C and elevating apron I, substantially as and for the purpose specified.

Third, the arranging of the rake C in the manner shown, and connecting it with a lever frame G, substantially as and for the purpose set forth.

Fourth, the beating device, composed of the bar M, provided at one side with a rack *s*, and having the cross-bars *t t* at its lower end, in connection with the frame N and slide Q attached to lever O, and operated from one of the supporting wheels of the machine, substantially as and for the purpose specified.

Fifth, the discharger J′, applied to the machine underneath, the receiver J having straps *m* attached, connected with levers, and arranged so as to operate in connection with the receiver, substantially as and for the purpose set forth.

No. 51,501.—JAMES W. WARD and STEPHEN D. WILSON, Richmond, Ind.—*Window Shade.*—December 12, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The construction of a window shade, in which the slats or strips are formed of converging surfaces, producing edges, as and for the purposes set forth.

No. 51,502.—H. WELLER and J. E. HATCHER, Fultonham, Ohio.—*Manufacture of Sugar.*—December 12, 1865.—This invention consists in separating the gum from the sirup by passing the sirup as it leaves the evaporator through a series of coolers and granulating boxes.

Claim.—First, the passing the sirup, as the same leaves the evaporator or boiler, through a series of boxes or coolers, substantially as herein described, so that it is divested of the gum mixed with it previous to its admission to the granulating boxes.

Second, the combination and arrangement of the evaporator B, cooler C D, one or more, and granulating boxes E, substantially as and for the purpose set forth.

No. 51,503.—M. D. WELLS, Morgantown, West Va.—*Horse Rake.*—December 12, 1865.—In this invention the stop which holds the rake in working position is connected to the cross-bar in front by a long bar attached to said cross-bar by a curved metallic spring. The handle passes through a slot in the rear end of this bar, so that upon raising said handle the rake is released.

Claim.—The bar F, attached by a spring G to the cross-bar H of the thills B B, and provided with a rod I at its rear end, in combination with the lever *c*, all arranged and applied to the rake to operate substantially in the manner as and for the purpose set forth.

No. 51,504.—OLIVER D. WELLS, Westerly, R. I.—*Apparatus for Ventilating Ships.*—December 12, 1865.—In this invention a tight skin or ceiling is provided in addition to the usual structure, and also partitions at the sides which form air passages; provision is also made for the circulation of air under the deck and through the frame-work of the vessel for the preservation of the timbers.

Claim.—First, the interior tight skin C D, arranged relatively to the timber-framing A, and to the tight planking or outer skin B, substantially in the manner and for the purpose herein set forth.

Second, the tight partitions J, formed in the sides of a vessel, substantially in the manner and for the purpose herein set forth.

Third, the air ways *c*, between the parts D and A, arranged relatively to each other, and to suitable means of receiving and discharging the atmospheric air, substantially in the manner and for the purpose herein set forth.

Fourth, the passages *i*, formed longitudinally above and below the deck of a vessel, substantially in the manner and for the purposes herein set forth.

Fifth, the air ways E F, and valves M N, mounted in a vessel, and arranged relatively to each other and to suitable passages for the movement of air through the frame-work of the vessel, substantially in the manner and for the purposes herein set forth.

No. 51,505.—JOHN S. WILLIAMS, Chicago, Ill.—*Corn Harvesters.*—December 12, 1865.—The object of this invention is to provide means for the ready discharge of the corn when a gavel has been gathered in the receiving box.

Claim.—The combination and arrangement of the box U, the hinged tail piece X, the arm W, and foot lever V, substantially as and for the purposes specified and described.

No. 51,506.—WILLIAM L. WILLIAMS, assignor to himself and THOMAS J. O'CONNER, New York, N. Y.—*Machine for Splitting Wood.*—December 12, 1865.—This invention consists in applying guide friction rollers to the sides of the reciprocating splitting knife.

Claim.—The rollers *l l*, applied to each side of the knives in splitting firewood, in the manner and for the purposes specified.

No. 51,507.—GEORGE W. WILSON, Galesburg, Ill.—*Machine for Cutting Stalks and Stubble in the Field Preparatory to Ploughing.*—December 12, 1865.—This invention consists in providing the driving wheels with a series of rollers so as to allow them to come in contact with the knife which is attached to the frame by means of springs, and thus by every revolution of the wheels an alternating cut is given. In combination with the above the attachment of a lever and hook in such a manner as to disengage the knife from the rollers when desired.

Claim.—First, the lifting and dropping of the knife C alternately by means of a series of rollers *a a*, and the elongated or other similarly constructed springs D D, substantially in the manner and for the purpose as herein set forth.

Second, the arrangement of the lever F and hook *g*, in combination with the rollers *a a*, for throwing out of gear or disengaging the springs, to which the knife C is attached, from the rollers, substantially in the manner and for the purposes as herein set forth.

No. 51,508.—CHARLES BATCHELLER, Keene, N. H., assignor to self, EDWIN PARKS, of Winchendon, and JOHN R. SHERMAN, of Adams, Mass.—*Apparatus for Boring Wells.*—December 12, 1865.—This invention consists of a tube for artesian wells, the lower extremity of which is provided with a screw. The upper end of the screw is of greater diameter than the tube, and is provided with a casing, which, when the well is boring, encloses the lower or slotted portion of the tube with its strainer. When the desired depth has been attained, the tube and strainer are drawn up so as to bring the latter in communication with the water above the aforesaid casing.

Claim.—The auger A, in combination with a slotted well-tube B, strainer E, and outer casing D, substantially as described.

No. 51,509.—E. T. COLBURN, assignor to himself and WILLIAM P. and ISAAC GANNETT, Boston, Mass.—*Clothes Sprinkler.*—December 12, 1865.—This invention consists in combining with a closed vessel a reservoir for the water, having one of its ends finely perforated, a hollow valve-stem or tube being so arranged therein that by opening the valve the vessel can be filled with water, the air escaping therefrom through its hollow stem or tube.

Claim.—The clothes sprinkler herein described, the same consisting of a water reservoir, provided with a hollow valve, stem, or tube, arranged so as to operate substantially in the manner specified.

No. 51,510.—JAMES CONNERY, assignor to himself and WILLIAM G. PENNYPACKER, Wilmington, Del.—*Steam Generator.*—December 12, 1865.—This invention consists in suspending within the fire-box of a vertical steam generator a cylindrical vessel for containing water, and which is provided with a series of pipes, which are connected to its top and bottom, for the purpose of facilitating the circulation of the water, and in combining it with an annular water space around the fire-box, and with heating tubes in the steam space of the boiler. This vessel is open at its upper end, and thus communicates freely with the water spaces of the boiler, while communication at the lower end, with the annular space surrounding the fire-box, is maintained by means of horizontal tubes passing from one to the other.

Claim.—The cylinder D, with vertical pipes E and radiating pipes *b*, in combination with the fire-box B, shell A, annular water space C, and heating tubes *e*, constructed and operating substantially as and for the purpose described.

No. 51,511.—A. W. DECROW, assignor to EDMUND HOOLE, Brooklyn, N. Y.—*Burglar Alarm.*—December 12, 1865.—This invention consists in certain arrangements of the tripping bolt, with regard to the striking mechanism of the apparatus, that can be applied with equal facility to either doors or windows.

Claim.—The tripping bolt B, so arranged with reference to the striking mechanism as to operate in either a vertical or horizontal direction, substantially as herein set forth, for the purpose specified.

No. 51,512.—HIRAM S. DODGE, Lockport, N. Y., assignor to J. W. DOTY.—*Connecting-rod Couplings.*—December 12, 1865.—The object of this invention is to prevent connecting rods from becoming loose, and to this end it consists of a pitman, forked at a suitable distance from the connecting point. Between the elastic bifurcations enters a projection from the object connected, secured by means of two conical points, which are firmly held in their places by a screw bolt held in connection with a latch.

Claim.—The connecting-rod coupling, composed of the spring jaws or straps I, provided with conical pintles D D, fitting into corresponding sockets H H in the strap or bar B, the adjusting bolt E, and latch G, all constructed and arranged and applied as herein described.

No. 51,513.—DANIEL C. HELLER, assignor to himself and B. FRANK BOYER, Reading, Penn.—*Composition Pavement.*—December 12, 1865.—This invention consists of a composition formed by combining plaster of Paris, litharge, coal-tar, sand, lime, and broken stone.

Claim.—A composition pavement, formed by combining plaster of Paris, litharge, coal-tar, lime, sand, and broken stone, or equivalent, substantially in the manner herein described and for the purpose set forth.

No. 51,514.—PETER R. HIGBY, Buffalo, N. Y., assignor to himself, WILLIAM SMITH, and ERASTUS W. CLARK, Westmoreland, N. Y.—*Mop Head.*—December 12, 1865.—This invention consists of a pivoted hook or bow so attached by arms to the ferrule of the mop handle as to grip the cloth between the frame and the loop as the mop is passed backward and forward over the floor.

Claim.—The combination of the frame A B B and the pivoted loop C, constructed and operating substantially as described and represented.

No. 51,515.—CHARLES JONES, assignor to himself and CHARLES HODGETTS, Brooklyn, N. Y.—*Funnel.*—December 12, 1865.—This invention consists in striking up a funnel in dies from one piece of metal, giving it, when finished, a plane marginal surface, and corrugations gradually increasing in width upwards.

Claim.—A funnel struck up in dies from a single piece of metal and having a plane marginal surface adjoining the upper edge, and flutes or corrugations in depth from the top downward, as herein described.

No. 51,516.—DAVID MANUEL, Newton, Mass., assignor to himself and WILLIAM MANUEL, Boston, Mass.—*Spring for Bedsteads.*—December 12, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The combination, as well as the arrangement, of the eye B and the conoidal or conical spring A, substantially as specified and as represented.

No. 51,517.—BENJAMIN G. MARTIN, assignor to himself, THOMAS M. DAVIS, LLOYD H. WALTON, and WATSON SANDFORD, Philadelphia, Penn.—*Calipers.*—December 12, 1865.—This invention consists in so applying a plumb-bob to the pivot of a pair of flat-footed calipers, that the nstrument may be used as a level as well as for calipers.

Claim.—The application of a plumbing bar C to a pair of calipers having feet *b*1 *b*2, constructed so as to form a straight line with each other when in contact, as and for the purpose described.

No. 51,518.—BENJAMIN G. MARTIN, Philadelphia, Penn., assignor to himself, THOMAS H. DAVIS, L. H. WALTON, and WATSON SANDFORD.—*Mash Tun for Brewers.*—December 12, 1865; antedated November 30, 1865.—This invention is explained by the claim and engraving.

Claim.—First, the case A B, hopper C, shaft D, and paddle wheels F F, the same being constructed and arranged to operate together, in combination with the rakes E E, or their equivalents, substantially as and for the purpose specified.

Second, the sparger G, in combination with the supply pipe g', or its equivalent, and the hopper C, the same being constructed and arranged to operate together substantially as and for the purpose described.

Third, the application of distributing paddles H H to the shaft D, the said paddles being constructed and arranged to operate below the case A B, as and for the purpose described, when the mixing machine herein described is placed directly over any suitable mash-receiving tun, as described.

No. 51 519.—JOHN B. REED, assignor to himself and DAVID R. TYLER, Warren, Mass.—*Welt Trimmer.*—December 12, 1865.—This invention consists in a welt trimmer composed of a bevelled blade having a cutting edge, a guard, and a rasp on it, and provided with a shank and handle.

Claim.—The welt trimmer, made substantially as described, viz: with the bevelled blade

B, having the cutting edge *a*, guard *b*, and the rasp arranged on it, and provided with a shank and handle, as explained.

No. 51,520.—HOMER RIGGS, assignor to himself and WILLIAM CHURCH, Oxford, Conn.—*Paper and Letter File.*—December 12, 1865.—This invention consists of a metallic letter file, made so as to allow it to extend, to be adjusted to various lengths.

Claim.—The herein described metallic letter file, made adjustable so as to extend, substantially as and for the purpose specified.

No. 51,521.—JAMES SAMUELS, assignor to himself and GEORGE W. OTIS, Lynn, Mass.—*Steam Generator.*—December 12, 1865.—The object of this invention is to economize the construction of steam generators, and to enable them to be taken apart for repairs and transportation and readily put together, affording a large amount of heating surface, and consequently economy of fuel. Its novelty consists in the arrangement of the partition stays between the compartments and the combination and arrangement of the rings, compartments, rods, and nuts.

Claim.—First, the partition stays J, arranged between the compartments A, substantially as and for the purpose described.

Second, the combination and arrangement of the rings B and I, compartments A, rods E E, and nuts F F, substantially as and for the purpose described.

No. 51,522.—C. A. STILLMAN, assignor to C. B. COTTRELL and NATHAN BABCOCK, Westerly, R. I.—*Pump.*—December 12, 1865.—In this invention a double-action horizontal pump has a circular valve chest seated in a transverse position above it. This chest tapers slightly towards an open end, at which the valves, arranged between two disks, are introduced, the eduction port being at the top of the chest.

Claim.—First, making the valve chamber C and valve box B of tapering form, in contradistinction to the form of a true cylinder, so that the wear of the box will be compensated, substantially as described.

Second, forming a water space between the larger head of the valve box B and the adjacent end *h* of the valve chamber C, substantially as and for the purpose above set forth.

Third, hinging the valves on the upper or higher sides of their seats, substantially as and for the purpose above set forth.

No. 51,523.—JAMES TEMPLE, assignor to himself and H. P. HOTTENSTEIN, Selin's Grove, Penn.—*Mode of Raising Railroad Tracks.*—December 12, 1865.—This invention consists of racks and pinions, so constructed that there is no fixed centre to that portion of the device that sustains the rack, the same consisting of a full circle, and supported by a frame made concave to fit its periphery, thereby imparting a motion to the same, tending always to a vertical position, in connection with the weight to be raised.

Claim.—First, the combination of the vibrating rack bar D with the rack or pinion bar E, constructed and operating subslantially as described, for the purpose set forth.

Second, the combination of said parts D and E with pinion wheels F and frame C B, operating conjointly to produce the result above mentioned.

No. 51,524.—CHARLES B. TRIMBLE, assignor to himself and CHARLES T. ALLEN, New York, N. Y.—*Lock for Coats.*—December 12, 1865; antedated November 30, 1865.—This invention consists in securing to a wall a suitable lock, to which is attached one end of a chain that can be passed through a coat sleeve, and the other end secured to the lock by a key.

Claim.—The safety coat lock herein described, the same consisting of a chain fixed at one end to and upon the wall or other suitable place, in combination with a suitable locking or holding device having the general features herein specified, the two being arranged and operating together substantially in the manner set forth.

No. 51,525.—GEORGE S. WENDELL, assignor to J. HORACE TAYLOR, New York, N. Y.—*Scoop and Flour Sifter.*—December 12, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—A combined scoop and sifter when arranged with the handle C, located as described, having the shield plate H behind the wire screen F, and with the hooks or rests D′ attached to said plate H, substantially as set forth for the purpose mentioned.

No. 51,526.—WILLIAM WESTLAKE, Chicago, Ill., assignor to CROSS, DANE & WESTLAKE.—*Lantern.*—December 12, 1865.—This invention consists in connecting the body or lamp to the guard by means of a ring or rod of the guard and spring catches.

Claim.—Connecting the body or lamp part of the lantern to the guard by means of the ring or rod of the guard and the spring catches, or their equivalent, substantially as and for the purposes herein set forth.

No. 51,527.—HUGH BAINES, Manchester, England.—*Die for Making Railroad Crossing Points.*—December 12, 1865.—This invention consists in the method of constructing the dies for welding and shaping railroad crossing points, the blank being first submitted to the action of the dies of one side of the hammer, then on the other, and finally of the middle die, which gives the finished shape, the upward projecting point at the front side of the die serving to split the end of the point.

Claim.—Constructing and operating dies, in the manner substantially as set forth, for the purpose of making railroad points.

No. 51,528.—ALEXANDER HAMAR, Hungary, Empire of Austria.—*Preserving Timber.*—December 12, 1865.—This invention consists of a tank for holding the solution to be forced into the wood, from the bottom of which descends a pipe provided with short pipes, which are inserted with the wood to be treated.

Claim.—Preserving timber from decay, insects, and other destructive agents by means of a solution prepared substantially ,as herein described, and applied in the manner herein set forth.

No. 51,529.—JOHN SUNDERLAND, England.—*Device for Reefing Fore and Aft Sails.*—December 12, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, the combination of the boss or socket *a*, pin *b*, jaws *c d*, and chain *k*, with the boom or gaff, as and for the purposes specified.

Second, the guard *m*, in combination with the chain passing round the boss or socket at the fore end or throat of the boom or gaff, as set forth.

Third, the combination of the travellers *r* with the mast hoops and sail, as and for the purpose described.

No. 51,530.—WILLIAM KING, Hopewell, New Brunswick.—*Penman's Assistant.*—December 12, 1865.—This invention consists of a device for supporting and steadying the arm and body of a person while writing, said device being so arranged that it forms bearing points principally for the bony and central parts of the hand and arm, leaving the muscles, blood-vessels, and nerves connected with the movements of the pen free from pressure or congestion.

Claim.—An apparatus for supporting the arm while writing, composed of an arm plate A, bar B, and wrist pad E, substantially in the manner herein shown and described.

Also, the arrangement of the bracket C, in combination with an arm plate A and bar B, as set forth.

Also, the spring *f*, arranged under the bar B, substantially in the manner and for the purpose specified.

Also, the combination of the spring *g* with the wrist pad E, substantially as and for the purpose described.

No. 51,531.—FREDERICK LANG, Vienna, Austria, and CHARLES A. FREY, Storre, Styria.—*Process for Smelting Iron.*—December 12, 1865.—This invention consists in bringing the scoria obtained in the manufacture of iron to the state of coarse sand and mixing it with slaked lime and carbonaceous materials. The plastic mass thus formed is spread out to dry, and is then broken up into lumps of proper shape, or it may be made into bricks of regular shape and dried, after which it may be smelted in the ordinary manner.

Claim.—The process substantially as herein described of preparing certain refractory ores and scoria cinders produced in the manufacture of iron preparatory to and facilitating the reduction thereof, as described.

No. 51,532.—J. M. FLOOD, Fulton, Mo.—*Spinning Wheel.*—December 12, 1865.—This invention consists in gearing the spindle up to the required speed by a series of wheels and belts. It will be understood by reference to the claim and engraving.

Claim.—First, the arm M pivoted to the bench A at *x*, in combination with the treadle O, the belt or cord P, the wheels N *d* and *d'*, and weight W, the whole constructed, arranged, and operated as described and set forth.

Second, the crank E', the wheels D F F'', and H H', and I, the belts D' G and L, and the spindle K, when combined and arranged as and for the purpose set forth.

No. 51,533.—EDWARD ANDREWS, Pottsville, Penn.—*Stop Valve.*—December 19, 1865.—The object of this invention is to enable repairs to be made in gauge cocks and other connections of steam generators, and of all other pipe connections with apparatus, without interrupting the progress of the work while the repairs are being made. Its novelty consists in the combination of the plug, chamber and valve, and also in the combination of these with the gauge cocks.

Claim.—First, the combination of the plug A, chamber C, and valve B, for the purposes and in the manner set forth.

Second, the combination of the plug A, chamber C, valve B, and gauge cock D, substantially as described.

No. 51,534.—JOSIAS J. ANDREWS, Clyde, Ill.—*Foot Warmer.*—December 19, 1865.—In this invention air is admitted through the edges at the top and bottom; the lamp sets in the bottom, and through the oil chamber are apertures which admit air to the point of combustion. The sides about the burner are double, and through apertures in the bottom, top, and inner plate of the chamber thus formed air circulates. The foot rest is a chamber composed of double plates, communicating by apertures on its under side and edge with internal chambers and an outer one. Upon the top are numerous small orifices. The chambers and foot rest are secured together by rods and nuts, and the lower part is attached to them by spring pins in the sides.

Claim.—First, the combination and arrangement of the exterior casing A, the plates R and T, the partitions F and I, and the apertures D *b* and *e*, substantially as and for the purposes shown and set forth.

Second, in combination with the above, the employment of the oil cup B and wick tube C, arranged and operating as and for the purposes specified.

Third, the combination of the casing A, the plates R and T, the partitions F I, apertures D, lamp B C, perforated plate E, and cone G, all arranged and operating in the manner and for the purpose herein specified and shown.

No. 51,535.—THEOPHILUS ARNDT, Mountjoy, Penn.—*Car Coupling.*—December 19, 1865.—This invention consists in the employment of a hook or shackle in connection with a sliding bolt, which works horizontally through the draw-head, and also of a draw-head provided with yielding sides.

Claim.—The link or shackle C provided with hooks *b* at its ends, in combination with the sliding rod D and the spring H arranged within the draw-head, substantially as and for the purpose set forth.

Also, the elastic or yielding plates *a a* in the draw-head, when used in combination with the sliding rod D and spring H, substantially as and for the purpose set forth.

No. 51,536.—CAROLL ATWOOD, Lebanon, Ill.—*Gang Plough.*—December 19, 1865.—In this invention the beams of the plough and the timbers to which they are attached are made adjustable so as to govern the distance the ploughs can be separated. The plough standards are jointed in such a manner that by means of a rod attached to the heel end of the landside, and which has a screw thread and nut on its upper end, the dip of the share can be most carefully adjusted.

Claim.—The metal bars H and I I in connection with the clamp J, all arranged substantially as shown, to admit of the lateral adjustment of the plough beams with the sills F F, for the purpose set forth.

No. 51,537.—A. C. AUSTIN, San Francisco, Cal.—*Quartz Crusher.*—December 19, 1865.—This invention consists in the employment in a quartz crusher of two crushing jaws in an inclined position to each other, which are caused to approach each other by being drawn down inclined planes with friction rollers between the jaws and the supporting inclined plane by means of cranks, levers, and links.

Claim.—The manner of causing the jaws K to approach each other by being drawn down inclined planes, for the purposes described and in the manner substantially as set forth.

No. 51,538.—AVERY BABBETT, Auburn, N. Y.—*Bolt Screwing Machines.*—December 19, 1865.—In this invention a head is placed upon the end of the shaft, having grooves or warp in which the slides that carry the dies work at right angles to the axis of the shaft. The outer ends of these slides have projections in the direction of the shaft and inclined towards it. A sleeve having inclined openings to admit these projections is made to slide back and forth on the shaft at the will of the operator, which draws the dies to or from each other, as required.

Claim.—First, the sliding ring D, for holding the dies, when used as and for the purpose set forth.

Second, the inclined planes above described, when used in the manner and for the purpose herein specified.

No. 51,539.—D. B. BAKER, Rollersville, Ohio.—*Dough Roller.*—December 19, 1865.—This invention consists of a travelling platform, upon which the dough is placed, in connection with a roller hung in suitable bearings above and extending across the platform. The roller is susceptible of adjustment, so that by causing the platform to be moved forward and backward under the roller the dough can be rolled to any desired thickness.

Claim.—The device for rolling bread and other doughs, herein described, the same consisting of a travelling platform in combination with a roller or rollers, hung in adjustable bearings above the same, arranged and operating together substantially in the manner described.

Also, the travelling platform, supported at each end upon rollers *g*, and operated by a pinion and rack gear, in combination with the roller *o*, hung in adjustable bearings of the standards *a a*, arranged together substantially as and for the purpose specified.

No. 51,540.—LORING S. BARKER, Pittsford, Mich.—*Corn Horse for Stacking Corn.*—December 19, 1865.—This invention consists in the construction of a corn horse, so that the legs will not catch in the fallen stalks, vines, weeds, or other obstacles as the horse is moved forward between the rows of corn. It is jointed together by means of pins, so that it can be folded up when not in use.

Claim.—A folding corn horse, with a saddle, or its equivalent, (in place of the long pin *a*, Fig. 6,) and with movable legs, for the purpose herein described.

No. 51,541.—MERRICK M. BARNES, East Hampton, Mass.—*Treadle Motion for Sewing Machines.*—December 19, 1865.—This invention consists of a wheel provided with a projecting rim, and with two radial arms extending from its hub to said rim in opposite directions. These arms are composed each of three parts, two of which are jointed, one at each end of the third part. Two rods proceed from the treadle, one to each of the said arms, which are so arranged that during the upward motion of the treadle one rod clamps one arm with the rim of the wheel, and thus imparts motion to the wheel. At the same time the other rod unclamps the other arm from the rim. During the descent of the treadle the reverse of this operation takes place, with the same result, so far as imparting motion to the wheel is concerned. Thus a continuous rotary motion is imparted to the said wheel.

Claim.—The combination of the wheel D, arms A B, rods *h k*, and a treadle or other motive power, when arranged and operating in the manner and for the purpose herein set forth.

No. 51,542.—JOSEPH W. BATTELLE, Worcester, Mass.—*Knife Polisher.*—December 19, 1865.—This invention consists of a stock and handle, to which is secured a ring of India-rubber, with a recess for receiving polishing material.

Claim.—An improved knife polisher, in which all the parts are constructed, arranged, and combined in relation to each other, as shown and described.

No. 51,543.—J. F. and W. L. BLACK, Lancaster, Ill.—*Gang Plough.*—December 19, 1865.—The novelty of this invention consists in the mode of raising and depressing the frame to which the ploughs are attached relatively to the position of the wheels, and also in the adjustment of the draught pole.

Claim.—First, the connecting of one of the wheels C′ to its axle A by means of the bar E, fitted in a socket D, and connected by a chain G to a lever H, in the manner substantially as described, to admit of the vertical adjustment of the ploughs, for the purpose specified.

Second, the adjusting of the draught pole M laterally through the medium of the screw *g*, plate *h*, and nut *i*, substantially as and for the purpose set forth.

No. 51,544.—H. E. BODWELL, Jr., Milburn, N. J.—*Device for Controlling the Spool-thread in Sewing Machines.*—December 19, 1865.—The object of these devices is to prevent the thread from springing over the ends of the wooden spools, and hence becoming entangled and soiled.

Claim.—The combination of the threaded sleeve C, having a shoulder *c′*, nut D, and perforated plates B B′, when constructed and employed as and for the purposes specified.

No. 51,545.—JOHN BOYD, Lowell, Mass.—*Carpet Stretcher.*—December 19, 1865.—This invention consists in so constructing the handle of a carpet stretcher that it can easily be extended in length to suit different persons, and when not in use can be closed and folded up, making a small and convenient article, the head of the device being provided with a serrated plate so arranged that the depth of its teeth can be quickly adjusted as desired.

Claim.—The combination of the pieces H B with the hinged slide D D and the set screws *b b*, arranged and operating substantially as described and represented.

No. 51,546.—FRANK BRAMER, Fabius, N. Y.—*Harvester.*—December 19, 1865.—This invention consists in the manner of mounting and adjusting the planetary gearing; the device connected with the axle, for holding the folded cutting apparatus for transportation; and the device forming the adjustable connection of the coupling arm and brace.

Claim.—First, the drum C, provided with the vertical flange *b*, and the internal gearing in combination with the planet wheels *c c′*, mounted on the arm E, sleeve *e′*, provided with the pinion *e*, bevel wheels F and G, and clutch H, all arranged and operating as herein shown and described.

Second, the rest *n*, constructed as shown, and secured to the end of the axle, for the purpose of holding the cutter bar securely when folded back, as shown in red in Fig. 2.

Third, the slotted plate *l*, attached to the brace bar J, in combination with the push bar L, having its front end pivoted at *m*, as shown and described.

Fourth, adjusting the drum *e* by means of plates or wedges inserted between the vertical flanges *a* at the rear and between the horizontal flanges *b* at the front, either or both as may be desired.

No. 51,547.—FRANKLIN H. BROWN, Chicago, Ill.—*Guide and Tuck-marker for Sewing Machines.*—December 19, 1865.—In this invention the horizontal bend of the guide is designed to prevent the cloth from turning up over the guide. The shaft of the pencil holder may not only be adjusted by sliding it in its socket, but by means of a projection thereon, and a slit in the socket, may be turned out of action when desired.

Claim.—First, roller A, in combination with the vertical guide C′ and horizontal pieces C C, when the roller is placed horizontally with and at an angle across and into said guide, as and for the purpose set forth.

Second, the combination of the horizontal pieces C C and the vertical guide *c*, as and for the purposes specified.

Third, the sheath *d*, pencil holder *h*, wire *e*, and projection *f*, in combination with a sewing machine guide, substantially as set forth.

No. 51,548.—JOHN BROWN, Utica, N. Y.—*Flour Bolt.*—December 19, 1865.—This invention consists in so constructing the bolt, that is covered with cloth of different degrees of fineness of mesh, that the different grades of flour can easily be determined, in combination with currents of air forced into the bolt through passages coming in contact with the meal, and assisting in the final separation.

Claim.—The combination and arrangement of the bolt constructed and operating as described, and the air apparatus also constructed and operating as described, for the uses and purposes mentioned.

No. 51,549.—JOHN BROWN, Utica, N. Y.—*Grinding Mill for Grain.*—December 19, 1865.—This invention consists in making apertures in the case surrounding the stones, so that the miller can see when the stones are relatively adjusted, which is done by means of screw rods attached firmly to the lower part of the case, and passing up through ears on the cap of the case, and to which the upper stone is attached, the lower stone being the runner. The dress of the stones consists of furrows and lands radiating on a line from the edge of the eye to the circumference, but extending only about half the distance to the eye, which inner portion is dressed in four quarters, having only four furrows.

Claim.—First, the apertures B B1 B2 B3 in combination with the means of adjusting the stones, substantially as described.

Second, the dress of the stones, consisting of the master furrows G1 G2 G3 G4 and the lands H H, in combination with the dress of F, substantially as described.

No. 51,550.—ROBERT D. BROWN, Covington, Ind.—*Rake Attachment to Harvesters.*—December 19, 1865.—This invention consists in the arrangement of means for imparting the necessary motion to a rake reciprocating over the platform of the machine in a path parallel with the finger bar.

Claim.—Giving the rake a continuous horizontal and self-adjusting erect motion by the endless chain G, guide rod R and check levers S, when arranged and combined with the platform, as herein described, for the purposes set forth.

No. 51,551.—T. B. BURTIS, Chicago, Ill.—*Grinding Mill.*—December 19, 1865.—This invention consists in having the outside shell of the mill so arranged as to adjust itself laterally with the grinder or core, when the core is provided with internal and external fans at its lower end, so as to force a current of air up through the interior of the grinding core, and down the space between the core and shell.

Claim.—First, the placing or arranging of the shell B in the framing A, in the manner substantially as shown, to admit of the self-lateral adjustment of said shell relatively with the grinder C, for the purpose specified.

Second, providing the lower part of the grinder C, both internally and externally, with fans or wings E, substantially as and for the purpose set forth.

No. 51,552.—W. M. BUTLER, San Francisco, Cal.—*Spittoon for Dental Chairs.*—December 19, 1865.—This invention consists of a spittoon attached by a universal joint to the side of the operating chair, and having in its upper chamber an amalgamating bowl containing mercury to take up the particles of gold which may fall from the mouth during the operation of filling the teeth.

Claim.—First, in combination with the spittoon B, the amalgamating bath or cup L, or its equivalent, for the purpose herein specified and set forth.

Second, attaching the spittoon to the chair by means of the universal joint E F, as set forth.

No. 51.553.—W. M. BUTLER, San Francisco, Cal.—*Dental Chair.*—December 19, 1865.—This invention consists of a certain mechanism arranged beneath the chair-seat, being in part two vertical segments, each pierced in its periphery with several holes, and provided with a

spring lever stop, by means of which the chair may be inclined backward or laterally to any desired angle, and there held at the will of the operator.

Claim.—The arrangement of the segments G and M, and their lever stops, in combination with the chair-seat and pedestal, in the manner and for the purposes set forth.

No. 51,554.—WILSON W. CAREY, Lowell, Mass.—*Lathe for Wood Turning.*—December 19, 1865.—This invention consists of a lathe having a revolving cutter-head with bits of the shape of moulding required to be cut, so that when a piece of wood of the proper shape is fixed in a former, and carried by the former, being held against guide plates, to the cutters, the wood will be dressed to the shape desired.

Claim.—The former F, with the irregular piece of wood I, in combination with the fixed guide J and revolving guides K and cutters E, as herein described.

No. 51,555.—T. CASE, Dexter, Mich.—*Horse Hay Fork.*—December 19, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The combination of the horizontal toggle bar E and tripping rope F with the bar A, ties *a b*, and hoisting rope D, when arranged to operate as and for the purpose herein specified.

No. 51,556.—W. K. CHASE, Charlestown, Mass.—*Calendar Clock.*—December 19, 1865.—In this clock the pallet is so arranged, in connection with the short arm of a lever fixed within the clock case, that it may be disengaged at will from the scape wheel; and combined with the clock is a calendar, composed of a series of rollers over which passes an apron with the names and numbers of the months and days printed thereon, so that the motion of the clock spring wheel is communicated to the rollers in such manner as to bring said names and numbers into view at the proper time.

Claim.—First, the anchor pallet *f*, in combination with the lever *h*, or its equivalent, arranged substantially as and for the purpose specified.

Second, the arrangement of the calendar rolls, herein described, connected with and operated by the actuating wheel of the clock through the bar *d'*, arranged with regard thereto, and so as to operate substantially in the manner specified.

No. 51,557.—ROBERT A. CHESEBROUGH, New York, N. Y.—*Refining Petroleum by Filtration.*—December 19, 1865.—This invention consists in the use of peat charcoal for filtering petroleum and other hydro-carbon oils. The charcoal is placed in a vessel with a perforated bottom and the petroleum is allowed to filter through it. This operation is repeated until the petroleum is sufficiently purified.

Claim.—The use of peat charcoal, either by itself or in combination with other substances, for purifying or refining petroleum by filtration.

No. 51,558.—ROBERT A. CHESEBROUGH, New York, N. Y.—*Refining Petroleum by Filtration.*—December 19, 1865.—This invention consists in passing petroleum through a vessel filled with alumina. If the oil is not sufficiently pure after passing through, the operation is repeated until the desired purity is attained.

Claim.—The use of alumina and substances containing alumina, either by itself or in combination with other substances, for purifying petroleum by filtration.

No. 51,559.—ANTOINE CHOPLAIN and PIERRE E. CHOLLET, New York, N. Y.—*Stringing Pianos.*—December 19, 1865.—This invention has for its object to place within the reach of any person who plays the piano-forte the means of tuning the instrument as perfectly as possible. According to this system, each double string is composed of a single wire fastened to a lever placed on a fulcrum which lies flat on the block. This lever reduces the back stress to about eight pounds, which tension is sustained by a spring. When the heat of the air has distended the string the spring draws back and makes up for the loss. When repeated blows of the hammer have caused the spring to lose somewhat of its power, it is only necessary to bring back the index point, which is placed above the end of the said lever, till it coincides with the zero mark on the lever.

Claim.—The apparatus for stringing piano-fortes, by which they can be tuned by persons unacquainted with music, or even by deaf and dumb persons, as above described.

No. 51,560.—JOHN C. CLEMENT, Kenduskeag, Maine.—*Combined Machine for Planting, Hoeing, and Digging Potatoes.*—December 19, 1865.—This invention consists in the combination and arrangement of the several parts, viz.: hopper, frame, feed-board, cutter, shares, roller, and blades, in such a manner as to allow of using the same independently or together at the pleasure of the operator.

Claim.—The frame A B', hopper B, feed-board A', coulter C, shares D, roller E, and blades F, when the several parts are so arranged and combined as to form at will a potato planter, cultivator, or digger, as herein specified.

No. 51,561.—MICHAEL W. COSTOLO, Boston, Mass.—*Belt Fastening.*—December 19, 1865.—This invention consists in the employment of two bars of metal slightly curved at their

ends and passing through holes made in the ends of the belt. These small bars have holes through them to admit of rods being passed through at the side of the belt opposite to that where the ends of the bars are inserted.

Claim.—The bars A A, curved at their ends and having holes drilled through them, in combination with the rods *b* b**, all arranged and applied substantially as and for the purpose herein set forth.

No. 51,562.—JOHN E. CRANE, Lowell, Mass.—*Wool Drier.*—December 19, 1865.—In this invention a cover of wire-cloth is stretched upon a suitable frame inside a convenient enclosure. Air can pass up through this from below, and thence off through an aperture in the chimney near the upper part of the enclosure; and through an aperture in the upper part of the end opposite to the chimney, air is admitted, which thence flows down through the wire cloth and off through an aperture in the chimney near the lower part of the enclosure. Wool or textile material to be dried is spread upon the wire cloth. Pipes may connect with the apertures in the chimney when the enclosure is at any distance.

Claim.—To dry wool or other fibrous substance by atmospheric air, drawn through the wool by means of the draught of a high chimney, substantially as specified.

No. 51,563.—JOHN CRITCHLEY, Portsmouth, N. H.—*Expanding Tool*—December 19, 1865.—This invention consists in cutting three or more longitudinal, radial, and inclined slots in a shaft, and fitting into the same keys having upon one edge corresponding inclines, and at each end of these keys nuts, screwed upon the shaft, and so overlapping the ends of the keys as to hold them in the slots, and, by screwing one way or the other, forcing the said keys up or down the inclines so as to expand or retract as desired.

Claim.—The expanding tool herein described, consisting of the stock A, provided with the radial grooves *a*, the nuts *c*, and keys or cutters *b*, all constructed and arranged in the manner and for the purpose specified.

No. 51,564.—GUSTAVUS CUPPERS, New York, N. Y.—*Level.*—December 19, 1865.—The construction of this instrument differs from the ordinary plumb level in having the index mounted on a shaft, one end of which bears upon the glass plate and the other on a screw head. The end of the index is bent over the top of the instrument, and is seen through a small hole in the upper surface of the instrument in a similar manner to the bubble of an ordinary fluid level.

Claim.—First, the combined gravitation level and inclino-meter, when constructed, arranged, and operating substantially as herein described.

Second, the combination with a pendulum hand of a level index, and the circular opening in the top of the casing.

Third, the method herein described of suspending the index hand.

No. 51,565.—T. A. DE BLOIS, Annapolis, Md.—*Steam Engine.*—December 19, 1865.—The object of this invention is to construct a double-acting trunk engine, which is effected by passing the connecting rod through a slide fitted in suitable keys, over the open end of the cylinder, in such a manner that, by means of the said slide, the cylinder is closed, and, at the same time, the connecting rod is free to follow the motion of the crank.

Claim.—The slide G, fitted on the slotted head F of the cylinder A, in combination with the connecting rod C, attached directly to the piston B, substantially as and for the purpose set forth.

No. 51,566.—LEWIS DEFENBAUGH, Kokomo, Ind.—*Beehive.*—December 19, 1865.—This invention consists in pivoting the hive to uprights, and making two sets of similar apartments in the inside thereof, so that the hive can be reversed as occasion may require. It further consists in lining the honey chambers with pasteboard, fitting close but movable.

Claim.—First, a reversible beehive, which consists of four apartments *c c d d*, communicating with each other, and provided with sliding glasses for shutting off the communications, substantially as described.

Second, sustaining the beehive, which is constructed substantially as described, upon pivot bearings, in such manner that it can be turned over at pleasure without disturbing the bees.

Third, the combination of the chambers *c c d d*, with the two covers B B′, and a hive box, which moves about a central axis, substantially as described.

Fourth, providing the chambers *c s* with removable cases G, substantially as described.

No. 51,567.—DANIEL DENNETT, Buxton, Maine.—*Cultivator.*—December 19, 1865.—This invention consists in a method of bracing the plough standards to each other and to the beam. The front standards are extended up to form handles.

Claim.—The plough standards, constructed as herein described, in combination with the beam fastened by the cross-piece to the front standards, and with the braces or ties that confine the rear standards to the front standards, substantially as herein specified.

No. 51,568.—JOHN W. DIXON, Philadelphia, Penn.—*Manufacture of Paper.*—December 19, 1865.—This invention consists in treating wood, straw, &c., with a solution of carbonate

of soda, in a digester, under pressure, the digester being so arranged that the current of a hot solution may circulate through the material contained in the digester, and the waste solution being passed through coils contained in tanks in order to heat a fresh supply of the solution.

Claim.—The process of treating wood or other vegetable substances by boiling in soda ash, (carbonate of soda,) under pressure, as a process or preparatory process for making pulp for the manufacture of paper from wood, straw, or other vegetable fibrous substances, substantially as described.

No. 51,569.—JOHN W. DIXON, Philadelphia, Penn.—*Process for Bleaching Paper Pulp.*—December 19, 1865.—This invention consists in bleaching the pulp by subjecting it to the successive action of weak acid or hyperchlorite of lime, at a high heat, under pressure, the pulp being contained in a digester through which the solutions may be made to circulate.

Claim.—First, the process of bleaching pulp by the action of a solution of chlorine or chloride of lime at a high temperature and under pressure.

Second, circulating the bleaching solution through the mass to be bleached in the digester while highly heated and under pressure, by means of a pump, or its equivalent, substantially as above described.

Third, pulping, washing, and bleaching wood, straw, or other vegetable fibrous material, in the same digester, under pressure.

No. 51,570.—JOHN W. DIXON, Philadelphia, Penn.—*Manufacture of Paper Pulp.*—December 19, 1865.—This invention consists in treating the fibre with a hot solution of chloride of lime under pressure in a digester, so arranged that a current of the solution will constantly circulate through the material contained therein.

Claim.—The process of treating wood or other vegetable substances by boiling in a solu tion of chloride of lime or chlorine, in highly heated water under pressure, as a process or preparatory process for making pulp in the manufacture of paper from wood, straw, or other vegetable fibrous substance, substantially as described.

No. 51,571.—JOHN W. DIXON, Philadelphia, Penn.—*Manufacture of Paper Pulp.*—December 19, 1865.—This invention consists of a digester provided with perforated diaphragms and communicating at its top and bottom with a coil. The water is made to circulate through the digester and coil by means of a pump. A coil within a tank communicates with the digester, in such a manner that the waste gummy matters and water may pass through said coil, and heat the fresh water contained in the tank.

Claim.—First, the combination of a pump P, to force highly heated fresh water into and through the wood or other material contained in a digester, with a strainer and an exit pipe for the escape of water at the bottom of the digester, strained from the woody fibre.

Second, the combination of a pump P, for forcing heated fresh water into the digester, (containing the material to be pulped by highly heated water under pressure,) with a coil R S T N, or equivalent heating apparatus, to heat the fresh water thus forced into the digester.

Third, the combination of the pump P, for forcing fresh water into the digester containing the vegetable fibrous material to be pulped by highly heated water under pressure, with the intermediate boiler K, or its equivalent, in which the fresh water is heated by the escaping effete water from the digester.

Fourth, the combination with the digester A, of the pump P, for forcing fresh water into and through the material in the digester to be pulped by highly heated water under pressure, the heating tank K, or its equivalent, and the coil R S T N, or its equivalent, for further heating the incoming fresh water.

Fifth, the combination of the pump P, and the heating coil R S T N, and intermediate tubing for forcing into the digester heated fresh water, and the pump X for producing an auxiliary circulation of highly heated water from the bottom to the top of the digester.

No. 51,572.—JOHN W. DIXON, Philadelphia, Penn.—*Process for Making Paper Pulp.*—December 19, 1865.—This invention consists in treating vegetable fibre with a solution of caustic lime in a digester so arranged that a current of the hot solution will constantly pass through the material contained therein, and the waste solution be used for heating a fresh supply of the solution.

Claim.—The process of treating wood or other vegetable fibrous substances by boiling in a solution of caustic lime, under pressure, as a process or preparatory process for making pulp for the manufacture of paper from wood, straw, or other vegetable substances, substantially as described.

No. 51,573.—ELI DUNCAN, West Milton, Ohio.—*Meat Safe.*—December 19, 1865.—This invention consists in combining with a large ventilating safe a small one in which the meat that is used and cut from is kept, so that the large safe is but seldom opened.

Claim.—A meat or provision safe constructed and arranged as and for the purposes herein specified.

No. 51,574.—J. W. ELLIOT, Leicester, Mass.—*Fire-lighting Attachment for Stoves.*—December 19, 1865.—This invention consists of a chamber provided with a damper in its top

or front plate, placed in such relation to an opening in the side of the stove as to expose the fuel contained therein to the flames of the kindling wood.

Claim.—The chamber G, to be placed in such a relation to an opening in the side of the stove, immediately above the grate bars, as to expose the fuel contained therein to the flames of the kindling wood, substantially as described.

No. 51,575.—DAN J. ELY.—Acton, Ind.—*Corn Planter.*—December 19, 1865.—This invention consists in the arrangement of various devices in such a manner as that a suitable measure of corn is dropped at proper distances, all operated by means of the driving wheels.

Claim.—The cards J J, in the wheels B and B2, with their cavities K K, and flanges *d d*, the slides C′ and D′, with their rollers E′ E′, the levers T U S R, and their connecting rods P and Q, the ratchet on the wheel B2, and the partition *f*, and measure *g*, for extending the space for the corn to drop, all arranged and operating substantially as and for the purpose described.

No. 51,576.—V. ENDERS, New York, N. Y.—*Padlock.*—December 19, 1865.—In this lock, the bolt which fastens the hasp is a projecting portion of an irregularly shaped and partly circular plate which is suspended near its edge upon a pin. A latch pivoted to the case is at one end, borne by a spring against the end of the hasp, and at the other end there is a hook which fastens into a notch in the edge of the bolt plate when unlocked. To the bolt plate there is suspended a bar carrying a stub, and turning on the pivot of the lock plate is a series of notched tumblers. To unlock the shackle, a flat key is introduced into the lock through a slot in its edge at the lower end, which first sets the tumblers; a further movement forces forward the plate of the stub so that the latter enters into the notches, and then, acting directly against the bolt plate, forces it around, thus withdrawing the bolt from the shackle and permitting the hook upon the latch to enter the notch in the edge of the bolt plate.

Claim.—The double-armed spring catch *h f*, applied in combination with the bolt C, shackle B, latch D, tumblers E, and key K, or its equivalent, all constructed and operating substantially as and for the purpose set forth.

No. 51,577.—LEVI W. FIFIELD, New Hampton, N. H.—*Knitting-Machine Needle.*—December 19, 1865.—The claim and engraving indicate the structure of the needle and its closing slide; the latter being operated by the needle and the loops, and requiring no additional mechanism to effect the movements of the slide relatively to the hook of the needle.

Claim.—The combination and arrangement of the notches *e* and *l*, with the closer B, its cam, and the grooved and hooked shank A.

Also, the combination and arrangement of one or more slots *g*, and pins *h*, with the hook *a*, and the recess *d*, of the needle A, and its closer B, each slot and its pin in such an arrangement serving not only to hold the slide in connection with the needle shank, but to stop the slide in its forward or forward and backward movements as set forth.

No. 51,578.—EARLS J. FISK, South Byron, N. Y.—*Cigar Machine.*—December 19, 1865.—This invention consists in the combination and arrangement of the gate, spring followers, slide and wires, with the cones, flexible disks, bearings, set screws, and rollers having an enlargement on their centre, in such a manner that as the tobacco is cut from the mass it is brought downward between the rollers, where it is rolled into form and wrapped.

Claim.—The combination and arrangement of the gate D, and slide F, the former provided with the holes *q q*, and the latter with the wires G G, and pins *o o*, and employed in connection with the ledge *m*, substantially as and for the purpose herein set forth.

Also, the combination of the sectional spring follower H H, rock-frame I, board M, and leaf N, arranged and operating substantially as and for the purpose herein set forth.

Also, the rollers P P, having an enlargement or swell *d* in the centre, and made to extend by means of the couplings *b′*, the whole arranged, combined, and operating substantially as herein set forth.

Also, connecting the cranks *g′ g′ g′ g′*, with a single head or handle R, when the same are used in combination with the rollers P P′, substantially as set forth.

Also, in combination with the cones S S, the bearings K′ K′ and set screws *l′ l′*, substantially as and for the purpose herein set forth.

Also, the flexible disks *p′ p′* in combination with rollers P P′, or equivalent, and the cones S S, substantially as described.

No. 51,579.—JACOB L. GARVER, Hamilton, Ohio.—*Harvester.*—December 19, 1865.—This invention consists in the means employed for securing the main drive-wheel axle at varying distances from the pinion shaft, whereby provision is made for changing the pinion, and so varying the speed of the cutters; in the means employed for adjusting the supplementary frame or yoke, relative to the main frame; and in the specific arrangement of the shipping lever standard, relatively to the yoke, the main axle, and the driver's seat.

Claim.—First, the arrangement of the slotted and doubly-grooved journal box H *h h′ h″*, tongued washer K K, bolt G, and yoke C, or their equivalents, for the positive, exact, and stable adjustment of the driver or master-wheel, with each change of pinions, substantially as set forth.

Second, the lever *l l'*, formed and adapted to operate in combination with the adjustable yoke C, and with the perforated rack F on the main frame, in the manner represented.

Third, in a harvester, whose driver or master-wheel journals in an adjustable yoke C, the vertical bearer standard N *n n'*, so arranged upon the yoke as to place the unshipping lever M *m* within convenient reach of the person driving, while the machine is in motion, as set forth.

No. 51,580.—ROBERT A. GAWLER, Concord, N. H.—*Washing and Wringing Machine.*—December 19, 1865.—This invention consists in the employment of a vertical reciprocating corrugated board, operating between two pressure boards, in connection with two endless conveying belts, arranged with the reciprocating board and the pressure boards in such a manner that the clothes will be fed between them. Wringers are also used in connection with the endless belts, by which the clothes may have the moisture expressed from them.

Claim.—The reciprocating board E, in combination with the pressure boards C C and endless belts I I', arranged for joint operation, substantially as and for the purpose specified.

Also, the wringers B B', when used in combination with the endless belts I I', reciprocating board E, and pressure boards C C, substantially as and for the purpose set forth.

No. 51,581.—HARRY E. GENNIG, Philadelphia, Penn.—*Strap Adjuster.*—December 19, 1865.—This invention consists in the arrangement of a strap attached to a handle, and provided with a buckle at its extremity. The handle contains a punch or gimlet.

Claim.—The arrangement of the strap A, the handle B, the buckle C, and the punch or gimlet *a*, substantially as herein specified and described.

No. 51,582.—KENDALL GIBBS, Berwick, Maine.—*Neck-rope Halter.*—December 19, 1865.—This invention consists of a rope, one end of which is formed with a loop for receiving a button containing an oblong concave space, within which are two holes for passing the rope through.

Claim.—The neck-rope halter, with the loop and adjustable concave button, substantially as herein described.

No. 51,583.—G. W. GILLESPIE, Hartford, Conn.—*Folding Shelf.*—December 19, 1865.—This invention consists in providing a shelf with hinged brackets capable of being folded down upon the shelf, and in providing these brackets and shelves with metallic knees or plates, whereby the same can be quickly and readily secured to the wall.

Claim.—The combination of the shelf A, bracket B, and knees *c*, all constructed and arranged to operate substantially as and for the purpose set forth.

No. 51,584.—STUART GWYNN, New York, N. Y.—*Manufacture of Opaque Pigments.*—December 19, 1865; antedated December 5, 1865.—This invention consists in subjecting the pigments to the action of heat, the temperature being varied to suit different materials, and then subjecting them while in a heated state to powerful pressure in suitable apparatus.

Claim.—The methods of making opaque pigments, producing in the normal pigments a structural change, thereby altering their mechanical qualities, and freeing them from gaseous and other impurities, by means substantially the same as described, and which constitutes them a new article of manufacture.

No. 51,585.—ALEXANDER HAMILTON, Washington, D. C.—*Wagon Shoe Lock.*—December 19, 1865.—The object of this invention is to lock one of the rear wheels of a wagon while descending a hill, without subjecting said wheel to the strain incident to chain locking. To this end, it consists of a shoe for insertion under the wheel, which is operated by a handle on the frame of the carriage without compelling the driver to dismount.

Claim.—The combination of the rods and levers described, by which the circular and rectilinear motion is given to the shoe bar, for the purpose of bringing the shoe to the required position.

Also, the rod H, lug *k*, and the perforated plate J, arranged and operated substantially as described.

No. 51,586.—W. W. HANSCOM, San Francisco, Cal.—*Quartz Crusher.*—December 19, 1865.—This invention consists of a quartz mill with crushing jaws, one of which is operated through the means of a crank shaft, pitman, and toggle lever, giving it at the same time a crushing and grinding motion, and of an adjustable plate between which and the moving jaw is placed friction rollers to reduce the friction of the jaw when in motion.

Claim.—The arrangement of the friction rollers H and the adjustable plate I, substantially as and for the purpose specified.

No. 51,587.—PETER HAYDEN, Pittsburg, Penn.—*Machine for Cutting Cork.*—December 19, 1865.—This invention consists of a slide, upon which is advanced the strip of cut cork to the knife, and on a revolving disk, so that when the strip of cork is severed at the proper length, it is seized by an arbor held in contact with the revolving disk, and caused to revolve in contact with a revolving knife, cutting the cork in shape, when the cut cork is released and the machine ready for a repetition of the operation.

Claim.—The described arrangement, by which the strip placed on the slide G is advanced to the knife for the severance of the blank, the latter being clamped in position for the second operation of shaping, substantially as described and represented.

No. 51,588.—MARTIN HESTER, New York, N. Y.—*Piano-forte Action.*—December 19, 1865.—This invention consists of a spring applied to the hinge butts of piano-forte actions at the end of the slit, for the purpose of contracting or widening the same in a regular manner, and enabling the functions of the hinge to be perfectly discharged.

Claim.—The application of the metallic spring *a* in piano-forte actions, for the purpose substantially described and set forth.

No. 51,589.—J. M. HUBBARD, West Haven, Conn.—*Machine for Husking Corn.*—December 19, 1865.—This invention consists in the use of a series of knives arranged with rollers in such a manner as to cut the ears from the stalks and separate the latter from the former; and also in the use of a wheel and one or more rollers, arranged in connection with the above in such a manner as to strip the husks from the ears.

Claim.—The cutter D attached to blocks E, in combination with the bars F fitted on the rod H, the arms *h* of blocks E and the fixed bar *i* in the box A, all arranged substantially as and for the purpose set forth.

Also, in combination with the parts above specified, the conical rollers L and wheel K, all arranged substantially as and for the purpose specified.

No. 51,590.—MICHAEL HUIET, Miamisburg, Ohio.—*Washing Machine.*—December 19, 1865.—This invention consists of two slotted beaters so journalled as to beat and compress the clothing on each side against a fixed and central slotted beater.

Claim.—The tub A A′ B B′ C, having at its mid length the vertical slotted partition D D′ *d*, in the described combination with the oscillating two-winged slotted beater E F *f* G *g* H H′, constructed and operating substantially as set forth.

No. 51,591.—MICHAEL HUIET, Miamisburg, Ohio.—*Washing Machine.*—December 19, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The arrangement of tub B, having the form of a truncated cylindrical sector, and being ribbed longitudinally on its floor and sides E E′, the ribbed lids F F′, and the open-barred beater D, carrying in its upper part a pair of wringing rollers G G′.

No. 51,592.—P. J. HYNES, Cooperstown, Penn.—*Boring Wells.*—December 19, 1865.—The object of this invention is to improve some of the devices and appliances used in connection with a derrick for boring oil or deep wells; it will be understood by reference to the claim and engraving.

Claim.—Connecting the cap G of the frame of the sand-pump windlass to the rigid standard P by a pivot, and to the loose standard H by a fixed joint, substantially as set forth.

No. 51,593.—GEORGE B. JEWETT, Salem, Mass.—*Artificial Leg.*—December 19, 1865.—The nature and object of this invention are explained by the claim and engraving.

Claim.—In artificial legs, designed for the treatment of the kind of cases hereinbefore mentioned, the above-explained arrangement of the knee joints with respect to the knee rest G, such joints under such arrangement being brought above the bearing of the natural knee on the rest, and so as to be in or about in the prolongation of the axis of motion of the knee.

Also, the improved knee-joint, constructed substantially as described, viz., with the joint pin screwed into the external parts of the joint and with one of such parts connected to the other by screws or their equivalents.

Also, the combination of the knee rest, stirrup, or supporter D and its thigh belt, sustaining branches *b b* with the tibia post branches *c c*, arranged as specified.

Also, the combination of the knee rest G, its supporter D, the thigh belt branches *b b*, and the tibia post branches *c c*, arranged as specified.

Also, the combination of the thigh belt or flexible lacing socket H, the knee rest G, the supporter D, and the branches *b b* and *c c* hinged together and connected with the tibia post; the whole being substantially as hereinbefore explained.

Also, the arrangement of the retractile strap with, or its application directly to, the knee rest as described.

No. 51,594.—EDWARD M. JUDD, New Haven, Conn.—*Curtain Fixture.*—December 19, 1865.—This invention consists of a stop lever hung upon the bracket and operated by the direct pull of the cord to disconnect the same from the roller and allow it to turn in either direction.

Claim.—The stop lever K, notched to take the squared axle of the curtain collar and operated by the cord *g*, as and for the purposes specified.

No. 51,595.—D. KELLOGG, Jackson, Mich.—*Washing Machine.*—December 19, 1865.—This invention consists in the employment of an inclined bed of rollers in connection with a reciprocating rubber composed of a frame provided with rotating shafts, having upon them

a series of elastic rings, all being so constructed and arranged that clothes may be washed in a thorough manner and without injury.

Claim.—The inclined bed of rollers B placed within a suds box A, provided with an inclined bottom *a* in connection with the rubber C, provided with rollers *b'*, and having elastic rings *c* fitted on them, substantially as and for the purpose herein set forth.

Also, the combination of the rollers *b' b'*, corrugated end pieces *e e*, transverse bar D, and grooves *d*, as and for the purposes described.

No. 51,596.—JOHN KEMP, Brooklyn, N. Y.—*Grinding Mill.*—December 19, 1865.—This invention consists in placing a cap or covering over the eye of the upper stone and also a chamber below the lower stone into which it may be forced. From the cap the air passes down through the eye of the stone, and from the chamber below it passes up through openings made for the purpose in the same stone.

Claim.—The described method of introducing air between the surfaces of the stones, consisting of an upper supply derived through the eye of the runner and a lower supply derived from a chamber under the bed stone, through air ducts in the latter which open into the grooves of the same, as described and represented.

No. 51,597.—CHARLES C. LEE, Washington, D. C.—*Rotating Whiffletree.*—December 19, 1865.—This invention is explained by the claim and engraving.

Claim.—The right and left strap sockets, B B, they having a curved finger or prong *b*, a hooked under lip *c*, and straight upper lip *a*, with their reversed inclined edges as described, in combination with a thimble socket E, pintle F, spring *e*, supporting brace *f*, all constructed, arranged, and operating in the manner substantially as and for the purposes herein set forth.

No. 51,598.—JOHN M. LINSCOTT, New York, N. Y.—*Rock Drill.*—December 19, 1865.—This invention consists in so forming a drill that when forced down into the hole in the rock it strikes upon an annealed bolt, in which rests a wedge of hardened steel, and forces out against the rock two steel cutters, thus forming a chamber or recess near the bottom of the hole in which to place the explosive material.

Claim.—First, the cutters H H' and the sliders I I', constructed and operating substantially as and for the purpose specified.

Second, the diagonal slot E E, in the manner and for the purpose substantially as described.

Third, the combination of the thimble bolt D and the wedge C, all constructed and operating as and for the purpose described.

Fourth, the manner of encircling or surrounding the steel spindle A, and wedge G with iron, substantially in the manner set forth.

No. 51,599.—SYLVANUS D. LOCKE, Janesville, Wis.—*Grain Binder.*—December 19, 1865; antedated June 19, 1865.—This invention consists in the manner of combining a yielding or elastic arm for compressing the grain with gavels, with a curved, slotted grain guard or shield, whereby said devices are adapted to the formation of gavels or sheaves of varying sizes; and also in the manner of combining a cam producing an intermittent motion with said arm and shield for operating the compressing arm.

Claim.—First, the combination of a yielding or elastic compressing arm with a curvilinear grain guard, substantially as and for the purpose set forth.

Second, the combination of a cam producing an intermittent motion with a reciprocating, yielding, or elastic compressing arm and a curvilinear grain guard, substantially as and for the purpose set forth.

No. 51,600.—SYLVANUS D. LOCKE, Janesville, Wis.—*Grain Binder.*—December 19, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—A rotating slotted hook, constructed with or without a spring-closing device, substantially as set forth.

No. 51,601.—JAMES R. LOGAN, Bellmore, Ind.—*Sawing Machine.*—December 19, 1865.—This invention consists in constructing a sawing machine for sawing down standing trees as well as sawing them transversely after being felled; this end is accomplished by changing the saw bar from one position to another in the saw frame.

Claim.—The block N, provided with the spring *i* and pivoted bearing *j*, to operate in connection with the saw arm H, substantially as and for the purpose set forth.

Also, the arrangement of the hinged or jointed frame C provided with the crank shaft D, the pitman E, the pivoted or vibrating bar F, the arm H, having the saw I attached, and the adjustable bars J J applied to the jointed frame C, substantially as and for the purpose herein set forth.

No. 51,602.—THOMAS J. LOVEGROVE, Philadelphia, Penn.—*Pump for Deep Wells.*—December 19, 1865.—In this invention below or around the region in which the piston moves an auxiliary chamber is formed, exterior to which is the well tubing. This chamber is closed at the bottom and communicates at the top only with the pump cylinder, and its lateral

openings near its top have internal valves to admit the liquid as the ascending piston creates a vacuum. A small perforation near the top of this chamber permits the continuous flow inward and downward of the liquid.

Claim.—First, placing an enclosed shield within the cistern, substantially as and for the purpose set forth.

Second, the vertical valves in the cistern, when arranged substantially as described, to operate in the manner set forth.

Third, puncturing the valved shield, substantially in the manner described for the purpose set forth.

Fourth, the combination of the shield, constructed substantially as described, with the cistern, when both are closed at the bottom and with the piston and vertical valves, all arranged and operating substantially as set forth.

No. 51,603.—JOHN MAGEE, Chicago, Ill.—*Elevator Bucket.*—December 19, 1865.—This consists in constructing the front edge of the elevator bucket of a strip of metal about twice the thickness of the body, having upon its inside a rebate to which the body of the bucket is lapped and riveted, giving a strong edge and smooth surface on the inside for the grain to pass over; and it also consists in bracing the said front edge to the back of the bucket.

Claim.—First, providing the front edge of the bucket A with the wrought rebated metallic band B, constructed as shown and arranged, and operating substantially as herein described.

Second, the arrangement of one or more braces D, provided with the shoulders *d*, with the bucket A, constructed with the rebated bar B, as and for the purposes shown and described.

No. 51,604.—W. C. MCGILL, Cincinnati, Ohio.—*Hinge.*—December 19, 1865.—This invention consists in placing a spring upon one leaf of the hinge, said spring having lips which pass through slots in the other leaf, thereby connecting and holding together the two leaves so as to form a hinge.

Claim.—First, one spring or more connecting and holding together two pieces of metal so as to form a hinge, substantially as herein described.

Second, parts A and B in combination with one spring or more, arranged so as to hold the hinge either open or closed, as specified and set forth.

No. 51,605.—DAVID H. MELOY, Waterbury, Conn.—*Can for Tea, Sugar, &c.*—December 19, 1865.—This invention consists of a cover for cans, that slides on an inclined plane, causing the said cover to be self-closing and requiring no hinges to attach the cover to the can.

Claim.—The combination of the horizontal grooves *c*, inclined grooves *c'*, cover B, and pins *b b*, all constructed and arranged to operate as and for the purpose specified.

No. 51,606.—LAMPSON P. MITCHELL, Waterbury, Conn.—*Machinery for Making Buckles.*—December 19, 1865.—This invention consists of a feeding trough and plunger, operating in connection with the forming device so as to receive the blank at the proper time and deliver it to the finishing dies.

Claim.—The combination of the shute *s*, trough *t*, and feeding slide *w*, with the dies *x y* and mechanism for bending the wire to shape, substantially as set forth.

No. 51,607.—ROBERT MONROE, E. STONE, and EDGAR ST. JOHN, Elmira, N. Y.—*Ventilating Window for Railroad Cars.*—December 19, 1865.—In this invention by the combination of a hinge, operating rod, jointed arm, connecting rods, guard, lever, spring, and fulcrum, a window or series of windows can be opened for ventilating purposes.

Claim.—The arrangement of the following named parts, viz: hinges *e*, operating rod *f*, jointed arm *h*, connecting rods *i* and *m*, guard *k*, lever *l*, spring *m*, and fulcrum *p*, when used in combination with the movable deflecting planes or panels *d*, substantially for the purposes set forth.

No. 51,608.—LORING MOODY, Malden, Mass.—*Car Coupling.*—December 19, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—The arrangement and combination of the projection *f*, and the slot *g*, with the gravitating tripper and its supporting pin or fulcrum.

Also, the construction of the lower or heavier arm of the tripper with the notch *e'* arranged in it, as and for the purposes hereinbefore set forth.

No. 51,609.—DAVID MUNSON, Indianapolis, Ind.—*Metallic Ruler.*—December 19, 1865.—This invention consists in forming the edge of the ruler with a double edge, and soldering a narrow folded strip of metal under and a little back of the ruler edge, so as to form a gutter to catch any ink that may get on the ruler and prevent it from getting on the paper which is being ruled.

Claim.—The improvements herein described and shown at the letters *a*, *b*, *c*, *d*, *f*, and *g*, when formed, constructed, and arranged substantially as set forth.

No. 51,610.—SAMUEL NOWLAN, New York, N. Y.—*Safety Valves for Steam Generators.*—December 19, 1865.—The object of this invention is to avoid danger by the use of safety-

valves liable to adhere to their seats by reason of foreign substances collecting around the valve and its seat, and to introduce to steam generators a sensitive valve, whereby to determine the steam pressure under all circumstances. Its novelty consists in the combination of the movable valve piston provided with steam channels, and the hollow piston rod, and helical spring.

Claim.—First, a safety-valve for steam generators, constructed and arranged for operation substantially as herein shown and described.

Second, the combination with the movable valve piston provided with steam channels as described, of the hollow piston rod and helical spring, when arranged for operation as herein set forth.

No. 51,611.—PERSON NOYES, Lowell, Mass.—*Lamp Wick.*—December 19, 1865.—This invention consists in weaving the covering of the lamp wick closely, and filling the same with loose longitudinal fibres.

Claim.—A wick for lamps, composed of a case or covering B, formed of a closely knit or woven fabric filled with loose longitudinal fibres A, substantially as and for the purpose herein set forth.

No. 51,612.—AUGUSTUS J. OHME, Hamilton, Ohio.—*Portable Refreshment Fountain.*—December 19, 1865.—This invention is designed as an improvement on a patent granted to the same inventor November 22, 1864, and it consists in the attachment to the body of the fountain of a breast-plate or pad, shaped in such a manner as to fit the body of the wearer, and having eyes for the insertion of a band or belt.

Claim.—The steadying plate or frame B, constructed as described, or devices substantially equivalent.

No. 51,613.—T. G. OTTERSON, Port Elizabeth, N. J.—*Cover for Fruit Jars.*—December 19, 1865.—This invention consists of a cover of glass, metal, or other material, slightly bevelled upon its inner side, having upon its lower edge and extending entirely around it, both upon its inside and outside, a moulded India-rubber or other elastic ring.

Claim.—In combination with a fruit jar, can, bottle or other similar article, having a conical shaped neck, a cover, with a moulded India-rubber or other elastic ring formed of one piece and extending around both the outside and inside of its edge, substantially as herein described and for the purpose specified.

No. 51,614.—SAMUEL PARR, Boston, Mass.—*Broom Clasp.*—December 19, 1865.—This invention consists of two spring clasps which pass around the broom in opposite directions, and are held in place by a screw passing through the broom to prevent the lower part from spreading.

Claim.—The said broom contractor as composed of the spring clasps B C, formed, arranged and connected in manner and so as to be applied to a broom, substantially as and by means hereinbefore specified.

No. 51,615.—CHARLES H. PARSHALL, Detroit, Mich.—*Hay and Cotton Press.*—December 19, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—First, operating the beater B, and elevating the platen D by means of a hydraulic press constructed substantially as set forth.

Second, in combination with the beater B, and platen D, as above described, the pawls J J, and doors N N, secured and constructed as and for the purpose set forth.

Third, in an apparatus for compressing hay or cotton as described, the construction and arrangement of the various parts constituting the hydraulic press as specified.

No. 51,616.—JOHN H. PARSONS, Quincy, Mich.—*Umbrellas.*—December 19, 1865.—This invention consists in the arrangement of the parts recited in the claim.

Claim.—The arrangement herein described of the knuckle joints, the conical and tight slides, the ferrules, and the detachable and folding staff, substantially as described.

No. 51,617.—J. W. PENNEY and E. M. THURSTON, Mechanics' Falls, Me.—*Wrench.*—December 19, 1865.—This invention consists in the arrangement of a movable jaw having a neck which works in a longitudinal slot in the shank of the wrench, and a head on the other side to keep it in place, in combination with a screw-thread rod working in the movable jaw, having a nut on the other end, which sets up close to a projection on the wrench stock or shank, and which forms a bearing for the journal of the nut to work in.

Claim.—As an improved article of manufacture, the screw wrench herein described, consisting of the slotted shank B, stationary jaw, movable jaw D, neck *d*, screw G, milled head F, and step E, all constructed and arranged as and for the purposes specified.

No. 51,618.—JOHN PEPPER, Lowell, Mass.—*Knitting Machine.*—December 19, 1865.—In this invention the plate is a flat ring cut in two in the line of its diameter, its inner edge when it is screwed to the needle cylinder fitting in an annular groove in the cylinder.

Claim.—First, the plate F, for holding the cylinder and needles both in their proper places, said plate fitting into a groove in the cylinder, substantially as described.

Second, the making of the thread guide in whole or in part in the same piece or part that constitutes the pushers, substantially as described.

No. 51,619.—E. O. POTTER, Pawtucket, R. I.—*Shaft Coupling or Clutch Pulley.*—December 19, 1865.—This invention consists of a spring placed within the positive part of the clutch that carries the band, in such manner as to relieve the parts from the jar incident upon the sudden engagement of one part of the clutch with the other, and to produce a more regular motion of the machinery.

Claim.—The introduction of a spring or springs in the pulley or clutch for the purpose of relieving the jar or concussion when one portion of the clutch is brought in contact with the other portion, substantially as and for the purpose set forth.

Also, the disk C, with its inclines D, and dogs F, in combination with the pulley A, and springs G, substantially as described.

No. 51,620.—J. C. PLUMER, Boston, Mass.—*Felloe Clamp and Spoke Support for Wheels.*—December 19, 1865.—This invention consists of a ring designed to closely encircle the lower shoulder of the spoke, keep it in position, and preserve it from contusion, as well as to support the upper shoulder. Also, of a plate, concave as to its lower surface where it rests upon the upper convex surface of the felloe, and designed to afford the lower shoulder of the spoke an unyielding support; also, of a clamp, designed to gripe the sides and upper surface of the felloe at its joint with the spoke, and prevent splitting.

Claim.—First, the combined felloe clamp and spoke support, when provided with the perforated plate or inside shoulder, and applied substantially as and for the purposes specified.

Second, at the junction of spoke with felloe, the combined double shoulders of spoke and spoke support, as and for the purposes described.

Third, the combination of the felloe clamp and spoke support with an elastic packing at the joints of the spokes and felloes of carriage wheels.

No. 51,621.—J. M. RIX, Boston, Mass.—*Key Guard for Locks.*—December 19, 1865.—This invention consists of a double stirrup hinged to the end of a case, which slides upon a bar hung upon the key, arranged in such manner that the end of the bar being in contact with the lock, the case is moved back until the hooked ends of the double stirrup embrace the bow of the key, when the case is secured in position upon the bar, and is prevented from moving by a pawl within said case, which falls into a notch in the bar.

Claim.—The rack bar A, provided with the face plate B and projecting bar C, in connection with the case D, provided with the pawl F, and strips G G, with hooks *i i*, and the slide E, all arranged to operate in the manner substantially as and for the purpose set forth.

No. 51,622.—FRANK J. ROTH and DAVID R. GAMBLE, Newark, Ohio.—*Steam-engine Piston.*—December 19, 1865.—This invention consists in providing a movable follower, which encircles the hub of the piston head, fitting over and upon collars upon the head, and having its inner edge bevelled so as to fit the bevelled edge of the packing ring. The object of this arrangement is to enable the steam as it enters each end of the cylinder, by pressing against the movable follower, to force out the packing into close contact with the cylinder. It further consists in combining with the movable follower and collars upon the piston head springs which are so arranged between them as to keep the followers in place when relieved from the steam pressure.

Claim.—First, the construction of a piston with one or more movable followers, which encircle the hub of the piston head, and act to expand the packing by pressure upon their outer faces, substantially as described.

Second, the combination of followers of disk form with a fixed piston head and an expansible pack, substantially as described.

Third, the springs, or their equivalents, interposed between the movable followers and the fixed shoulders *a a'*, substantially as described.

Fourth, the combination of the fixed plates or shoulders *a a'* with the movable followers C C, and the fixed piston head B, substantially as described.

Fifth, the combination of the movable bevelled followers C C with the bevelled segments *g*, and the segments *h*, substantially as described.

No. 51,623.—CHARLES ROWLAND, Clinton, Ill.—*Combination of Envelope and Letter-sheet.*—December 19, 1865.—This invention will be understood by reference to the claim and engraving.

Claim.—A combined envelope and letter-sheet, formed of the sheet A and flaps B B C C, arranged in the manner substantially as herein shown and described.

No. 51,624.—CHARLES H. SAWYER, Hollis, Me.—*Bed Bottom.*—December 19, 1865.—This invention consists in hanging each slat loosely, but supporting its opposite ends by arms, which are so hinged to the bed frame that they can only move vertically, the inner end of each arm resting upon a spiral spring.

Claim.—In combination with the loosely supported slats, a separate arm at each end of each of such slats, each slat being supported on two of said arms, and each arm being supported at its inner end on a spring, and being so hinged at its outer end as to be incapable of other than vertical movement, substantially as set forth.

No. 51,625.—JAMES SERRILL, Philadelphia, Penn.—*Drawer Fastening.*—December 19, 1865.—This is a device for locking an outer ostensible money drawer to an inner real money drawer, and consists of a metal pin, which passes up through the bottom of the outer drawer, and which, by pressing with the finger upon a button on its lower end, may be forced up into a hole in the bottom of the inner drawer, and thus lock the two together, so that both drawers may be pulled out at once, whereas, by simply pulling the knob in the usual manner without first pushing up the pin, the outer empty drawer alone will be drawn out.

Claim.—In combination with a till drawer, the supplemental drawer C D, catch spring E, and drop pin F, constructed and arranged so as to operate together, substantially as and for the purpose described.

No. 51,626.—THOMAS R. SINCLAIR, New York, N. Y.—*Mode of Starting Railroad Cars.*—December 19, 1865.—This invention consists in the arrangement of a single spring, connected by a shaft and gearing with the axles of the wheels, and in the necessary clutches and slides to enable the spring to be wound up in stopping the cars, and in applying its expansion to start them.

Claim.—First, the arrangement of a single spring, connected by the shaft and gearing with the axles of the wheels, to operate in the manner substantially as and for the purpose set forth.

Second, the sliding clutch F, in connection with the gears E I, when arranged with a spring or springs J, substantially as and for the purpose specified.

Third, the levers G G′, connected with the clutches F, and applied to the truck, substantially as described, when used in connection with the gearing and spring or springs, as and for the purpose set forth.

No. 51,627.—ROBERT SKINNER, San Francisco, Cal.—*Manufacture of Water-pipe.*—December 19, 1865.—This invention consists of a sheet-iron pipe, coated with a composition of sulphur and coal tar, and covered with layers of paper saturated with the same composition, the surface being sprinkled with coke dust or earthy substance.

Claim.—The construction of water-pipes, by the use of layers of paper or cloth dipped and saturated in resinous or tarry substances, mixed with mineral, earthy, and carbonaceous matter, in about the proportions herein specified, and for the purpose set forth.

No. 51,628.—EBEN T. STARR, New York, N. Y.—*Revolving Fire-arms.*—December 19, 1865.—In this invention the arm is provided with a peculiarly formed spring latch or guard, placed immediately in front of the revolving cylinder, for the purpose of securing the cartridges therein until it is desired to eject them. A vibrating arm, provided with a head similar to that of a hammer, is pivoted at the rear of the cylinder, and when pressed forward by the thumb, its point or nose, entering the chamber of the cylinder through a rear opening, ejects the cartridge case. The vibrating arm or ejector is kept back from contact with the cylinder by a spring.

Claim.—First, the cartridge guard C, constructed, applied, and operating under the control of a spring *d*, substantially as herein specified.

Second, the ejector E, arranged to operate in the arc of a circle in rear of the cylinder on one side of the frame of a revolving fire-arm, and operating substantially as herein set forth.

No. 51,629.—EBEN T. STARR, New York, N. Y.—*Gun Lock.*—December 19, 1865.—In this invention the trigger is provided with the usual sere for holding the hammer at either half or full cock, and also with a projecting bevelled lip, by which it may engage with a spring stud on the heel of the hammer, if desired. By this simple arrangement the arm may be either cocked by hand, or be cocked and discharged by pulling the trigger.

Claim.—First, the construction of the trigger, the lever for drawing back the hammer, and the sere in one piece, or, in other words, making a single piece serve the three purposes of a trigger, a lever for drawing back the hammer, and a sere, substantially as herein specified.

Second, the employment, for the purpose specified, of a pin D applied to work in a hole drilled transversely through the tumbler, substantially as herein set forth.

No. 51,630.—J. STEADMAN, Pacatonica, Ill.—*Punching Machine.*—December 19, 1865.—This invention consists in the arrangement and combination of levers for operating the punch, which will be understood by reference to the claim and engraving.

Claim.—In machines for punching holes in metal, the combination and arrangement of the link G, which drives the socket and punch F E, with the right-angled lever I H, working on the rock shaft R, and the connecting rod J, arms K N, working on the rock shaft L, and the link O, and hand lever P, substantially as described.

No. 51,631.—SAMUEL D. THURSTON, Somerville, Ohio.—*Broom Head.*—December 19, 1865.—This invention is intended to enable people to refill their own brooms at any time, and

it consists of a crescent-shaped sheath of thin metal, made flexible at its extremities, which diverge. A hole in the sheath admits of the insertion of the tapered and screw-threaded extremity of a wooden handle, which is provided with orifices for wood screws, whose insertion completes the formation of the broom.

Claim.—First, the crescent-formed metallic sheath A A′ A″, *a* and tightening straps D F G E F′ G″, adapted to operate in conjunction with a tapering screw-pointed handle, in the manner set forth.

Second, the combination with the parts specified in the foregoing clause of the barbs of H H, applied and operating as and for the purposes set forth.

No. 51,632.—EDWIN J. TOOF, Fort Madison, Iowa.—*Three-horse Draught Equalizer.*—December 19, 1865.—This invention consists of such an arrangement of levers and rods that the draught is applied to a short lever or double-tree, one of the arms of which is thrice as long as the other, that the two horses attached at one side of the draught pole draw upon the shorter arm of said double-tree, while the one horse on the opposite side draws upon the longer arm, and the draught will be uniform.

Claim.—The combination and arrangement of the short double-tree or lever B with the levers C and D and the rods or chains *e f* and *b g*, operating substantially as and for the purpose specified and shown.

No. 51,633.—GEORGE TRIMBLE, Philadelphia, Penn.—*Mitring Machine.*—December 19, 1865.—This invention consists of a graduated table upon which are adjustable blocks, against which the stock to be mitred is placed, and which can be adjusted to any required angle or mitre to the line of the saw, which works in a kerf or guide attached to an upright adjustable frame, so as to admit larger or smaller stuff to be cut.

Claim.—The graduated base A and its adjustable guide pieces F and F′, in combination with the vertically adjustable frame and its slot for guiding the saw, the whole being constructed, arranged, and operating substantially as and for the purpose herein set forth.

No. 51,634.—CHARLES H. WARREN and A. C. BALDWIN, Tiffin, Ohio.—*Wash-board.*—December 19, 1865.—This invention consists of a corrugated or fluted board and a corrugated or fluted metal facing or rubbing surface and grooved side strips.

Claim.—The improved new article of manufacture herein described, to wit, a wash-board with corrugated metal covering E, grooved back board A, and grooved side strips R B, all in the manner and for the purpose herein described.

No. 51,635.—OWEN G. WARREN, New York, N. Y.—*Railroad Box Rail.*—December 19, 1865.—This invention consists of a box rail composed of two parts—a bottom or bed section, and a top or track section—the two when put together forming a strong, light, hollow rail, the hollow part of which can be used to hold signal lines or telegraph wires.

Claim.—First, the combination of the bed rail with the track rail to form the box rail, substantially as described.

Second, the use of the channels G, and those formed by F with A, for locking the two parts of the box rail firmly together, substantially as described.

No. 51,636.—C. WEITMAN, Hazelton, Iowa.—*Device for Shrinking Tire.*—December 19, 1865.—This invention consists in the employment of a lever, hook, and chain, arranged with a suitable bed piece, in such a manner that tires for wheels, or other metal bands, may be contracted in diameter without cutting and rewelding them.

Claim.—The combination of the hooked lever B *b*, hook C, arm D, chain E, bed plate A, and fulcrum *a*, all constructed, arranged, and employed in the manner and for the purposes herein set forth.

No. 51,637.—ZENAS WHEELER and PHINEAS MUNSELL RANDALL, San Francisco, Cal.—*Quartz-grinding Mill.*—December 19, 1865.—This invention consists of a circular mill having a conical bottom fitted to receive grinding dies, and a conical muller or revolving grinder with shoes and openings having a less diameter than the conical bottom, so as to admit the substance to be ground, which is done between the two conical surfaces by means of the shoes and dies.

Claim.—The conical muller or runner C, constructed substantially as described, that is, with openings *o o*, to admit the substance to be treated, and also with openings to secure the shoes *c*, and, in combination with the runner or muller C, the stationary conical bottom B, fitted to receive the dies *a*, substantially as described.

No. 51,638.—JOHN WICKERSHAM, Baltimore, Md.—*Furnace Door.*—December 19, 1865.—This invention consists in a finely perforated sheet of metal placed within the frame-work of the door, in combination with a blank slide, so arranged that any number of the perforations may be covered with the slide, and by which means the current of air admitted through the door to direct contact with the gases arising from the fuel may be regulated without affecting the velocity of the jets which pass through the unobstructed passages.

Claim.—The combination and arrangement of the blank slide A and perforated door B, whereby to regulate the supply of air over the fire bed, without affecting the velocity or blast, at the same time preserving the molecular currents, which secure a large gain of chemical force.

No. 51,639.—S. B. WILLIAMS, Leavenworth City, Kansas.—*Keeper for Door Locks.*—December 19, 1865.—This invention consists in making the catch or keeper of a lock adjustable horizontally, so that it can be brought nearer to or further from the lock, as occasion requires.

Claim.—Making the keepers of door and other locks adjustable, to compensate for the expansion and contraction of doors and door casings, substantially as above described.

No. 51,640.—WILLIAM D. WILSON, Newark, N. J.—*Marine Propeller.*—December 19, 1865.—This invention consists of a pair of vanes mounted upon a shaft, that extends from the stern of a vessel parallel to the line of the keel. The vanes are at right angles to the shaft, and present their entire area to the water when projected backward, while they collapse toward the shaft and oppose only their edges to the water when they are withdrawing to the vessel preparatory to another stroke.

Claim.—The construction of the propelling shaft and vanes and the reversing shaft and stops, substantially as described.

No. 51,641.—CHARLES WOODBERRY, Boston, Mass.—*Stove for Heating Irons for Tailors' and Hatters' Use.*—December 19, 1865.—In this invention over the top and front of the fire chamber a right-angled cover fits, being hinged at the back edge to the top of the stove; weights are attached to the extended arms of the top plate to keep the cover open when swung up. The grate can be raised or lowered by means of the holes in the sides of the fire chamber, in which the journals fit.

Claim.—The within described open stove with its balanced weighted cover F, arranged and operating substantially as described.

Also, in combination with the above, regulating the height of the grate so as to vary the size of the fire pot by two or more holes *f g* on each side to receive the bearings of the grate, substantially as set forth.

No. 51,642.—ISAAC WOODWORTH, New Haven, Conn.—*Manufacture of Rubber for Dental Purposes.*—December 19, 1865.—This invention consists in uniting together rubber of different tints, in order that the colors, when vulcanized, will present a streaked or varied appearance.

Claim.—Preparing rubber for dental purposes, substantially in the manner as herein set forth.

No. 51,643.—ARCALOUS WYCKOFF, Elmira, N. Y.—*Band Machine.*—December 19, 1865.—This invention consists in having two metal clamps in halves and hinged, the inside form of which will conform to the shape of the barrel, and in which are recesses to hold the hoops. A tube of wood is placed between the two halves of this clamp after the hoops are in place and the clamps firmly secured together, and on a frame, so that one half can be moved toward the other; then a screw is revolved, pressing one-half of the clamp toward the other, so that when it has advanced far enough, the clamps are opened on their hinges, and the barrel or keg taken out all hooped.

Claim.—First, compressing simultaneously the two ends of a hollow cylinder of wood by the action of a press upon tapering rings, substantially as described.

Second, the metallic rings B B′ with chambered recesses C C, in combination with a press, substantially as and for the purpose set forth.

No. 51,644.—WILLIAM C. WYCKOFF, Brooklyn, N. Y.—*Furniture Spring.*—December 19, 1865.—This invention consists in constructing that class of bed springs which are provided with a central guiding rod, in such a manner that the bearing or guides for the rod shall be entirely within the spring—that is to say, a part of the wire of which the spring is formed.

Claim.—The cross rods *b*, in combination with a spring A, provided with a guiding rod B, substantially as specified.

Second, making the coils *c c*, or an equivalent thereof, in the cross rods *b*, as a bearing for the guiding rod B, substantially as specified.

No. 51,645.—FERDINANDO ZUCHETTI, New York, N. Y.—*Cloth Guide for Sewing Machines.*—December 19, 1865.—The object of this invention is to give to the laterally adjustable guide on the presser, and which directs the edge of the cloth, a vertical adjustment, and also to adapt it to cloths of different thicknesses. This is effected by hinging it, so that it may be raised or lowered, as desired.

Claim.—A gauge for a sewing machine, composed of a supporting bar *f* and hinged adjustable guide *g*, in combination with an arm *d*, extending from the presser foot A, substantially as and for the purpose described.

No. 51,646.—C. M. BROMWICH, assignor to himself and JOHN R. TAFT, South Boston, Mass.—*Sand Distributor for Railway Cars.*—December 19, 1865.—This invention consists in placing in front of the wheels cone-shaped receptacles to hold sand or other gritty substance, which have at their lower ends slide valves operated at the will of a person standing on the platform by means of a lever.

Claim.—Attaching to and upon the under side of railway cars, and in front of the wheels thereof, boxes of receivers for sand or other suitable gritty substances, constructed and arranged in such a manner as to be opened or closed at pleasure, substantially as described and for the purpose specified.

No. 51,647.—DANIEL BULL, assignor to himself and JOHN B. EDOMS, Amboy, Ill.—*Table-leaf Support.*—December 19, 1865.—This invention consists in the employment of an arm hinged to the table-leaf, and arranged to bear against the frame of the table underneath, with a suitable spring to keep it in place.

Claim.—The herein-described arrangement of the hinged bracket D, spring E, loop *e*, and catch *f*, all constructed as and for the purposes specified.

No. 51,648.—CALVIN L. BUTLER, assignor to J. RUSSELL MANUFACTURING COMPANY, Greenfield, Mass.—*Cutlery.*—December 19, 1865.—This invention consists of two bolsters formed in two similar parts or sections, and of a thickness equal to the inner end of the handle, so as to be flush with the same; on the inner surface of each bolster is formed a projecting flat-shaped prong of a thickness equal to one-half of the width of a slot cut in the tang. The bolster pieces are placed on each side of the knife tang, and their prongs pass through the tang slot; the bolster receives a heavy blow, which clinches the prongs about the knife tang.

Claim.—Forming the bolster of a knife, fork, or other article of cutlery in two parts or sections, each having upon their inner surface a projecting teat or prong, which, passing through a suitable shaped slot in the knife, &c., are clinched upon the same, substantially as herein described and for the purpose specified.

Also, the concavities or depressions about the bolster prongs, as and for the purpose described.

No. 51,649.—DAVID B. COX, assignor to COX, CHURCH & CO., Troy, N. Y.—*Base-burning Coal Stove.*—December 19, 1865.—This invention consists in a removable magazine fitting into the top of the stove, with air flues at its sides, open to the air at the top, and into a chamber surrounding the lower part of the magazine at the bottom. Through perforations in this the air is passed in jets upon the fire.

Claim.—First, the removable magazine C, in combination with the air chamber G at its lower end, substantially as and for the purposes set forth.

Second, the chamber G with its perforations in combination with the tubes D D, or equivalent, substantially as set forth.

No. 51,650.—THOMAS C. CRAVEN, assignor to himself and WILLIAM H. DAVIS, Albany, N. Y.—*Combined Hay Spreader and Elevator.*—December 19, 1865.—In this invention the axle is provided with cranks, so that the teeth which are attached to it are eccentric in their relation to the cylinder, about which they are arranged, and therefore by the revolution of said cylinder about the axle the teeth are alternately projected and retracted. When the machine is to be used for elevating hay upon a load a chute is attached to the upper part of the frame, up which the hay is forced by the tooth cylinder without the aid of endless carriers.

Claim.—First, the mode herein specified of forcing hay or similar material up a trunk or chute by a revolving mechanism placed at the lower end of said trunk, to act continuously in raking up and elevating the hay, grass, or other material, substantially as specified.

Second, a revolving rake, composed of a cylinder, with teeth projected and retracted by an eccentric movement, as set forth.

Third, the revolving cylinder, armed with rake teeth, in combination with the trunk *h*, wheels *b*, and gearing *e f*, as and for the purposes specified.

No. 51,651.—WILLIAM DAVIS and JOB JOHNSON, assignors to JOB JOHNSON, Brooklyn, N. Y.—*Fish Hook.*—December 19, 1865.—This invention is a slight modification of that patented by N. R. Gardiner, September 20, 1864, and consists of a double-spring hook, the two extremities of which are held together by a pin or bolt to which the line is attached, and which pin, instead of passing through an eye on the shank of each of the arms or hooks, has itself an eye or loop passing over one of the said shanks.

Claim.—The shank *e*, formed with an eye sliding upon one of the fish-hook shanks *b*, in combination with the eye *d* turned in the other fish-hook shank, as and for the purposes specified.

No. 51,652.—JIM B. FULLER, Claremont, N. H., assignor to himself and J. P. UPHAM, of the same place, and E. T. RICE, New York, N. Y.—*Machinery for Preparing Flax.*—December 19, 1865.—In this invention there is a series of workers and strippers which are closely invested with a wire-gauze screen, so that the dust and other fine matter passes from the fibre as it moves from worker to worker.

Claim.—The grating or screens contiguous to and in combination with a series of strippers and workers fitting and acting substantially as specified and for the purposes set forth.

No. 51,653.—CHARLES B. and JOHN HARDICK, assignors to ALBERT B. CAMPBELL, Brooklyn, N. Y.—*Pump Valve.*—December 19, 1865.—This invention consists in the employment of polygonal valves guided at their ends, and having springs that close them upon their seats with but little concussion as the pump terminates its stroke, thereby avoiding the blow usually resulting from the motion of the water closing the valves. The valves are also arranged in a diagonal position, so that the water will pass freely and equally on each side of each valve.

Claim.—First, the polygonal valve, guided at its ends by openings in the side of the valve chest, in combination with the spring or springs applied to close said valve, in the manner and for the purposes set forth.

Second, the arrangement of the induction and eduction passages, the latter being fitted with the division *o*, in combination with polygonal valves, arranged as set forth.

No. 51,654.—S. B. HIGGINS, assignor to himself, E. C. COLEMAN, and JOHN BROWN, South Boston, Mass.—*Journal Box.*—December 19, 1865.—This invention consists in making the end pieces of a journal box adjustable at the point where the constant friction causes it to be worn out more rapidly; when thus worn it can be easily remedied by replacing a new end piece and using the balance of the box.

Claim.—A journal box with detachable end pieces C, constructed substantially as described and for the purpose set forth.

No. 51,655.—HENRY LIEBERMAN, assignor to himself and PHILIP NUN, JACOB WEIL and GEORGE ROCK, Paducah, Ky.—*Tanning Apparatus.*—December 19, 1865.—This inven, tion consists in the employment of baskets provided with hooks or cross-bars, on which the hides or skins can be suspended; said baskets extending down into the pits and being attached to truck frames resting on trucks. A reciprocating motion is given to said frames by means of a rod and crank.

Claim.—First, the reciprocating truck frames B, carrying the baskets C, in combination with suitable pits and with a crank or its equivalent, constructed and operating substantially as and for the purpose described.

Second, the use of closely framed baskets E, for the purpose of facilitating the operation of leaching bark and putting away the leather, as set forth.

No. 51,656.—ABNER W. JONES, assignor to N. D. MORGAN, Brooklyn, N. Y.—*Slide Valve for Steam Engines.*—December 19, 1865.—The object of this invention is to balance the pressure of steam on the valve so that it shall be moved with facility and keep in good working order. Its novelty consists in the combination of the two cylinders with the spring, so as to balance the pressure of steam and hold the valve to its seat.

Claim.—The combination of the cylinder K, and the cylinder P, with the spring M, so constructed and arranged as to balance the pressure of the steam and hold the valve to its seat, substantially as herein described and for the purpose set forth.

No. 51,657.—HENRY L. MESERVEY, assignor to himself and HORATIO FAIRBANKS, and assignor by mesne assignment to HOWARD TILDEN, Boston, Mass.—*Flour Sifter.*—December 19, 1865.—This invention consists of a hopper, provided with a sieve and containing a revolving frame carrying a series of rollers by means of which the operation of sifting flour is performed.

Claim.—A revolving frame carrying a series of rollers E, in combination with a box or hopper A, and sieve B, substantially as and for the purpose set forth.

No. 51,658.—CHARLES E. MILLER, assignor to himself and FRANK DIAL, Cincinnati, Ohio.—*Broom Head.*—December 19, 1865.—This invention consists in forming the broom head of a circular and downwardly flaring socket, armed with fins on its inner concave sides so that as the but of the handle is driven into the socket the fins will serve to enter and spread the but, and thus insure its firm and permanent occupancy of the socket.

Claim.—First, the combination of the socket A, shell C, arms D D′, bows E F, clasps G H, and links L L′, when constructed and arranged to operate as and for the purposes specified.

Second, the arrangement of the alternate long and short teeth I J upon both the bars E and G, as and for the purposes specified.

No. 51,659.—J. G. MOXEY, assignor to himself, HENRY C. CAREY, and ABRAHAM HART, Philadelphia, Penn.—*Manufacture of Bread.*—December 19, 1865.—This invention consists of a vessel furnished with two pipes, and an exit pipe at the bottom. Through the top of said vessel passes a shaft provided with stirrers; the flour is placed in the vessel, and yeast, highly charged with carbonic acid and mixed with a proper quantity of salt, is pressed into the vessel through one of the aforesaid pipes. After the contents of the vessel are thoroughly mixed they are discharged through the pipe at the bottom.

Claim.—Injecting into a closed vessel containing flour an aqueous ferment charged with carbonic acid gas, for the purpose specified.

No. 51,660.—MILTON V. NOBLES, Rochester, N. Y., assignor to himself and JOHN C. NOBLES, Rushford, N. Y.—*Bit Holder for Braces.*—December 19, 1865.—This invention consists in a split sliding sleeve with a screw cut on its inner surface and working on a screw thread cut on the shank of the brace and made to grasp the bit below the socket of the brace when said sleeve is screwed firmly up to the bit; over the sleeve passes a holding ring, and the two halves of the sleeve are bent so that as the ring is slid back or up on the flaring part, the sleeve will open and relieve the bit.

Claim.—In combination with a solid socket and split sleeve and its tightening ring, which of themselves form an independent bit or tool holder, the additional holding devices composed of the screw thread on the socket and the sectional screw threads in the sleeve, substantially as and for the purposes described.

No. 51,661.—FRANK PFEIFFER, Giesboro', D. C., assignor to CHARLES F. PALMER, Norfolk, Va.—*Adjustable Link.*—December 19, 1865.—This link is made in two sections, each section being bent so as to form a hook at each end, turned towards the same side of the rod or wire of which they are made, and by which they are connected together, the hooks of one section being turned towards those of the other by a pin, which projecting from about the middle of one, passes through an eye formed in the other section, and is riveted down upon it, thus permitting one section to turn upon the other. When the hooks which are flattened and tapered are folded down and lapped, those of one section upon those of the other, a continuous link is formed and any tensile strain upon the chain in which it is incorporated will effectually prevent their separation.

Claim.—The shape and construction of the open link formed by the combination of four hooks operating on a centre pivot, as herein described and for the purposes set forth.

No. 51,662.—EDWARD L. SEYMOUR, assignor to CHARLES RAHT, New York, N. Y.—*Apparatus for Separating and Concentrating Ores.*—December 19, 1865.—This invention consists of a box within which is a shallow pan with a perforated bottom, the said box being attached by means of a hinge to an open air tube. A chute surrounds said air tube and is designed to carry off the heavy particles of ore; the air tube communicates with an air chamber which is supplied with air by means of the air pump. The ore is supplied through the hopper, which has two perforated bottoms, the lower one being arranged so as to vibrate back and forth; the light particles of ore are carried off through the chimney.

Claim.—First, the previous diaphragm arranged at the lower end of a shallow receptacle or basin, whether funnel-shaped or otherwise, in combination with the devices for causing a current of air or water to pass through it and for feeding it with material, as set forth.

Second, the construction of the shallow receptacle or basin, whether funnel-shaped or otherwise, in such manner that the position of the said receptacle may be readily altered for the purpose of discharging the concentrated material, substantially as set forth.

No. 51,663.—AARON SILVERS, assignor to himself and T. L. KENWORTHY, C. A. CLEGG, and S. J. WALKER, Collinsville, Ohio.—*Broom Head.*—December 19, 1865.—This invention consists in the form of the stirrup as shown in the engraving, and the combination of parts to secure the broom corn in its place.

Claim.—The screw loop C D as particularly described and represented in figure 3, when used in combination with the other devices for covering the broom, and its mechanism, and the broom corn is inserted and held in position in the manner and for the purpose substantially as described.

No. 51,664.—WARREN A. SIMONDS, assignor to the AMERICAN GAS MACHINE COMPANY, Boston, Mass.—*Gas Regulator.*—December 19, 1865.—This invention consists of a metallic disk attached to the base by means of a flexible tube. The disk is suspended by a cord passing over a pulley and having a weight attached to one end. Within the flexible tube is a pin provided with a valve, operated by a pulley and cord which passes over the pulley and is secured to the disk.

Claim.—A dry gas regulator, the combination of the flexible cylinder C and its disk *g g* with the regulating valve I, so arranged as to increase or diminish the area of the supply channel H, or delivery channel E, as the demand for the gas through said channel E is increased or diminished, said valve being operated by the predominant of two counteracting forces, viz: the pressure of the gas on disk *g g*, and the cord *d*, and weight E, substantially as described.

No. 51,665.—DAVID M. SMYTH, assignor to himself and P. C. SCHUYLER, New York, N. Y.—*Clutch for Connecting and Disconnecting Machinery.*—December 19, 1865.—This invention consists of a stop located at the junction of a wheel and its shaft, partly in the former and partly in the latter, arranged so as to lock or unlock the wheel according as it is moved forward or backward through the medium of a spring.

Claim.—First, the turning stop with its spring arm and located at the junction of the shaft and hub of the wheel, and made partly in the periphery of the shaft and partly in the inner periphery of the hub, substantially as described, in combination with the spur or the equivalent thereof for turning the stop, substantially as described.

Second, the friction strap and friction wheel in combination with the clutch, substantially as and for the purpose specified.

No. 51,666.—SAMUEL WALLIS, assignor to himself and JOHN PEPPER, Lowell, Mass.—*Knitting Machines.*—December 19, 1865.—In this invention the expansible and contractible needle-barb presser is made in two pieces, which overlap each other, and by means of slots and pins may be moved so as to increase or diminish their operating edge, which acts on the barbs in order to close them, that they may discharge a loop. When any of these barbs are not so acted upon, the needle retains its loop.

Claim.—The narrowing or forming of the toes of stockings or the ends of mits in machine-knit goods, and on the flat or open frame, by means of a contractible and expansible presser, without moving the loops on the needles, and by throwing out or into action said needles, substantially as herein described.

No. 51,667.—WILLIAM WILSON, Jr., assignor to himself and CHARLES GREEN, Wilmington, Del.—*Machinery for Manufacturing Sheet Metal Boxes.*—December 19, 1865.—This invention consists in the arrangement of a pair of oval toothed rims, which fit into curved recesses in the unfinished ends of the vessel to be operated upon, so that when they are placed upon a couple of projections arranged in the machine they will hold the teeth of the rims in gear with corresponding wheels, which give them and the said vessel a revolving motion. Two forming rollers placed on a vibrating and sliding frame are brought to bear upon the projecting edge of the ends of the said vessel, so as to form them upon the side finishing the joint.

Claim.—First, the toothed rims N in connection with the rollers T attached to sliding bars, which are placed on a hinged or adjustable frame O, substantially as and for the purpose set forth.

Second, the combination of the toothed rims N with the cylindrical projections M attached to plates H H′, one of which is adjustable, and all arranged substantially as described, for the purpose of clamping the box properly while being operated upon, and at the same time admitting of the rims N adjusting themselves with the wheels E, into which they gear, substantially as described.

No. 51,668.—BERNHARD MULLER, Fulda, Germany, assignor to SCHACK & HATOP, New York, N. Y.—*Imitation of Embroidery.*—December 19, 1865.—This material is designed for making slippers and similar articles. The square elevations upon the surface of the cloth may be woven in it, or may be produced by stamping or pressure.

Claim.—The new article of manufacture, consisting of cloth with small square elevations, on which a design is painted or printed, substantially as described, for the purpose of thereby obtaining an imitation of embroidery on canvas.

No. 51,669.—WILLIAM SMITH, Windham, Conn., executor of the estate of E. P. BECKWITH, deceased.—*Paper-cutting Machine.*—December 19, 1865.—This invention does not admit of a brief description. Its nature will be understood from the claim and engraving.

Claim.—First, the combination in a paper-cutting machine of a gradually starting and gradually stopping intermittent feed mechanism, with a revolving knife, substantially in the manner and for the purposes specified.

Second, the within-described arrangement of the revolving knife *b*, crank B2, connection D, segment E, and intermittent feeding drum G, substantially as and for the purpose specified.

Third, the friction pawls G3, arranged substantially as specified, to transmit motion from the sleeve F′, revolved alternately in opposite directions to the feeding drum G of a paper-cutting machine.

Fourth, the pendulous piece C arranged relatively to the knives *a* and *b*, and to the intermittent feeding mechanism G H, or its equivalent, in a paper-cutting machine, substantially as and for the purpose herein specified.

Fifth, the spring K, arranged as specified relatively to the intermittent feeding mechanism E F G and their connections, in a paper-cutting machine.

Sixth, the friction brake M and spring J, or its equivalent, in combination with the depressing arm B4, with a rotating cutter *b*, and with the wheel G′ and drums G H, of an intermittent feed in a paper-cutting machine, substantially as specified.

Seventh, the within-described arrangement of the spring J, brake M, wheel G′, and the connected parts of an intermittent feed in a paper-cutting machine, substantially as specified.

Eighth, the catch or dog N, with a releasing device therefor, in combination with the brake M, spring J, and suitable means for depressing the same and the intermittent feeding drums G H, or their equivalents, in a paper-cutting machine, as specified.

Ninth, the detaching cam B5 and surface *n*, arranged relatively to the cutting shaft B, catch N, brake M, and wheel G′, of an intermittent feed in a paper-cutting machine, substantially as specified.

No. 51,670.—FRANCIS BROWNING, Watchel, England —*Combined Clothes Boiler, Drainer, &c.*—December 19, 1865.—In this invention a clothes holder, with a perforated bottom and

sides, rests upon a ledge near the bottom of the boiler; at its sides and hinged to the bottom are handles extending nearly up to the cover of the boiler, and to these handles, about half way down, are affixed arms, which, when the holder is raised in the boiler, can be turned over the top edge thereof by moving the handles outwards, and thus support the holder, and allow the water to drip off the clothes.

Claim.—A clothes receiver B in combination with a clothes boiler, substantially as and for the purpose herein set forth.

No. 51,671.—T. P. SHAFFNER, Louisville, Ky.—*Blasting by Electricity.*—December 19, 1865.—In this invention the main wires, which pass to the mine or cartridge, are connected by smaller wires to the fuzes, a number of which are placed in a single charge of explosive material.

Claim.—The use of branch circuits in separate fuzes, with a single charge of explosive material, for the purpose of simultaneous ignition of the same at several points, as set forth.

No. 51,672.—T. P. SHAFFNER, Louisville, Ky.—*Cartridge.*—December 19, 1865.—In this invention the cartridge is made of compressed gun cotton, provided with channels or tubular passages, so as to form annular or perforated cylindrical masses, and is designed for either fire-arms, torpedoes, or blasting purposes.

Claim.—First, the hollow cartridge of compressed nitro-fibre, affording by its central opening a space for the introduction of the electric or other fuze or fuzes, by which explosion is obtained.

Second, the introduction of loose nitrated fibre in the cavity or cavities of a compressed cartridge, to assist in the dissemination of the fire from the ignited fuze or fuzes.

Third, the branchial or ramifying spaces S S, irrespective of form, direction, or number, but proceeding from the fuze cavity or cavities of a compressed cartridge, for the purpose described.

No. 51,673.—T. P. SHAFFNER, Louisville, Ky.—*Cartridge for Blasting.*—December 19, 1865.—This invention consists in the combination of a hollow cartridge of explosive material, provided with central and diverging spaces, which are occupied by a series of igniting fuzes and loose nitro-cotton, and protected on its exterior by a water-proof covering, which is tied around the electric wires that enter the cartridge for the purpose of exploding it.

Claim.—The combination of the hollow cartridge provided with fuzes, as described, in its central space, and with a water-proof covering on its exterior, as and for the purpose described.

No. 51,674.—T. P. SHAFFNER, Louisville, Ky.—*Blasting by Electricity.*—December 19, 1865.—This invention will be understood from the claim.

Claim.—The combination of the main circuit and the branch circuit, the latter being conducted to the various points for simultaneous ignition, and being of less conductivity than the main wires, by reason of smaller size, or by the interposition of resistance between their terminals sufficiently to place the different objects under equally favorable conditions for simultaneous explosion, substantially as described.

No 51,675.—JAMES R. ABBOTT, Midway, Ind.—*Combined Level, Square, Compass, and Plumb Staff.*—December 26, 1865.—This invention consists of a rectangular hollow block, having attached to it on each side a lid, which can be elevated so as to form a right angle with the block. In the block is a weight, which has attached to it an index, which traverses a semicircular slot on the face of the block, and thus indicates when it is level. Upon the block is a compass, and on each of the lids is a vertical slot.

Claim.—The combined level, square, compass, and plumb staff, substantially as described.

No. 51,676.—JOHN AGNEW, Bath, Penn.—*Machine for Boring Fence Posts.*—December 26, 1865.—This invention consists in a machine for boring holes in fence posts by arranging the carriage to move towards and from the auger, and it also being provided with a sliding gauge to determine when the hole in the post is to be bored.

Claim.—The post borer constructed as herein described, with sliding carriage L, notched bar O, clamps P, racks K, pinions G, straps H, and treadles J, all arranged to operate substantially as and for the purposes set forth.

No. 51,677.—GEORGE T. ALLAMBY and JOHN G. BUGBEE, Bangor, Maine.—*Crutch.*—December 26, 1865.—This invention consists of an elastic buffer or pad applied to a crutch foot, which latter is provided with a sliding spur passing down through the buffer, and actuated by mechanism encased in the crutch foot, whereby the crutch can be instantly changed, from a sharp-pointed, anti-slipping, to a cushioned crutch, which is harmless as to floors or carpets.

Claim.—The combination of the buffer D with the adjustable spur C, inserted in a socket A placed on the lower part of a crutch, the spur C being provided with a spring *a* and knob *b*, the knob through a slot E in the socket A, all arranged to operate substantially as and for the purposes specified.

Also, the sliding tube *c*, in combination with socket A, spur C, spring *a*, slot E, and knob *b*, when arranged to operate substantially as and for the purposes specified.

No. 51,678.—STEPHEN F. AMBLER, Brooklyn, N. Y.—*Ore Separator.*—December 26, 1865.—This invention consists of a tube surrounded by a suitable frame for supporting a central hollow shaft, which extends to the bottom of the pan, and is provided with a series of branch pipes and scrapers. A wire gauze sheet is secured at a suitable distance from the bottom of the pan. Above the said sheet are the agitators, which are secured to the shaft.

Claim.—The use and employment of the vertical hollow shaft C, in combination with the basin B, sieve G, agitators *m*, and branch tubes F, arranged and operated as shown, for the purpose specified.

Also, in combination with the same, the scrapers E, arranged and operated in the manner described and for the purpose specified.

No. 51,679.—A. F. & J. U. ANDREWS, Avon, Conn.—*Safety Fuze.*—December 26, 1865.—This invention consists, first, in substituting sliver in the body of the fuze in lieu of yarn; second, in a combination and arrangement of an impervious tube relatively thereto; third, in a certain covering for the body of fuze formed of free and unsized sliver wound spirally about the body and saturated with fuze varnish.

Claim.—First, employing in the body of safety fuzes slivers of cotton or other suitable fibre, substantially in the manner and for the purpose herein set forth.

Second, the combination of the tubular powder casing D, the sliver A, and the equivalent saturating material M; the latter being allowed to permeate through the sliver A by reason of its loose condition, and to stop near the powder by reason of its impermeability, all substantially as and for the purpose herein set forth.

Third, the spiral position of the covering of sliver F, adapted to closely but softly envelop and bind together the inner body of a safety fuze, substantially in the manner and for the purpose herein set forth.

No. 51,680.—JAMES ARMSTRONG, Jr., Elmira, Ill.—*Cultivator.*—December 26, 1865.—In this invention the beams of the cultivator are pivoted to a stationary base rigidly attached to the axle-tree. The driver's seat is fixed to the rear end of the beams, and stirrups are attached to the base, so that by transferring the weight from the seat to the stirrups the teeth are raised from the ground. A saddle with different points of elevation is affixed to the axle-tree under the rear end of the tongue, by adjusting which the depth to which the ploughs penetrate the ground is governed.

Claim.—First, the shovel-carrying frame D D, with the driver's seat D′, secured to its rear end, said frame being pivoted by its forward ends to two levers, which are secured rigidly to the carriage axle B, and are provided with foot stirrups *m m*, substantially in the manner and for the purpose described.

Second, the movable-stepped block *c*, applied to the axle B of a cultivator carriage, for adjusting the shovel frame of the cultivator, substantially in the manner and for the purpose herein described.

Third, the longitudinal laterally rocking rods *e e*, in combination with the pivoted cap *d*, applied in a cultivator, substantially in the manner and for the purpose herein described.

Fourth, the compound pivot joint *e i*, for connecting the shovel standards G G to their supporting frame, and allowing the lateral vibration of the standards, as well as permitting the desired adjustment of the same, either to the right or left, substantially in the manner described.

Fifth, constructing the shovels S, with an embracing extension *t*, which is pivoted to the standard in the manner described and represented, for the purpose set forth.

Sixth, the combination of the shovel frame D D C′ with the levers C C, vibrating standards G G, curved levers I I, and treadles H H, substantially as described.

No. 51,681.—ROBERT BAILEY, Cleveland, Ohio.—*Coal Stove.*—December 26, 1865.—This device has a hot-air chamber so situated as to receive the heat directly from the fire chamber in one side and from the escaping products of combustion on the other. Cold air is introduced into this chamber through suitable apertures in the rear of the stove. The heated air is jetted into a space formed between the wire gauze covered door and a vertical plate opposite it. There is a vertical and perforated diaphragm in the rear of the stove through which the products of combustion pass on their way to the diving flue in the rear of the stove.

Claim.—First, in combination with a hot air chamber so located as to receive the heat directly from the fire chamber on one side, and from the escaping heated products of combustion on the other, the diving flue C, the chamber A, and the radiating flues C′, arranged and operating substantially as described.

Second, the illuminating flame flue F, formed by the combination of the vertical plate F′, and the exterior wire gauze or perforated plate F2, arranged and operating substantially as described.

Third, in combination with a hot-air chamber, receiving the heat directly from the fire chamber on one side and from the escaping heated products of combustion on the other side, an illuminating flame flue into which heated air is introduced in small currents or jets from said hot-air chamber in its rear, and a supply of cold air is introduced through a wire gauze

or perforated plate in front, so that the currents of hot and cold air will meet in the flame flue, substantially as described.

Fourth, the perforated plate dividing the upper combustion chamber from the flue through which the products of combustion pass away, substantially as and for the purpose described.

Fifth, the combination of the fire pot, the hot-air chamber, the illuminating flame flue, and the wire gauze or perforated illuminating plate, all constructed and arranged substantially as shown and described.

No. 51,682.—C. C. BAUM, Oxford, Iowa.—*Cultivator Plough.*—December 26, 1865.—This invention consists in the combination and arrangement of the head block, axle bars, shaft cranks, connecting rods, and levers, by which means the cultivator is made adjustable as desired.

Claim.—The combination of the bars C, vertical shafts D, cranks *b b*, connecting rod E, lever F, heads I, and axles K, as and for the purposes set forth.

No. 51,683.—J. C. BELL, Pawnee City, Nebraska.—*Evaporator.*—December 26, 1865.—This invention consists in attaching the pans to a frame provided with wheels which run on a tilting track. By this means either pan can be brought over the furnace.

Claim.—First, the tilting rails *e*, arranged in combination with the frames E E′, supported by wheels C C′, and supporting the pans F F′, and arch G, substantially in the manner and for the purpose set forth.

Second, the rock shafts *c c′*, and hand levers *g g′*, in combination with the tilting rails *e*, carriages E E′, pans F F′, and arch G, all constructed and operating substantially as and for the purpose described.

No. 51,684.—GEORGE and WILLIAM BENCH, Auburn, N. Y.—*Wagon Brake.*—December 26, 1865.—This invention consists in arranging certain mechanical devices and connecting the neck-yoke of the horse's harness therewith in such manner that, whenever the wagon is descending a hill, by means of said device a brake shall be applied to the forward wheels of the wagon with sufficient force to hold the same in check, and also to lock the said device and prevent the brakes from being applied whenever it is desirable to back the wagon.

Claim.—The combination of the locking device with the wagon brake when constructed and operated in the manner above described.

No. 51,685.—HENRY BLOEDEL, Fond du Lac, Wis.—*Tire Cooler.*—December 26, 1865.—This invention consists in first constructing a tube, upon the bottom of which is secured a circular ring or way formed of a series of inclined planes of uniform height; in the centre of the bottom a block is placed which has a vertical hole in it; from opposite sides of the block project two small pins which fit into spiral grooves cut in opposite sides of a stem or stud. This stem is secured to a frame for receiving the wheel when the tire is to be applied. The frame is constructed of cross timbers formed in the usual way, and it is then provided with four standards which project downward. To each standard is secured a flanged wheel, which wheels notch on the inclines at the bottom of the tub, so that the frame can be raised or lowered at pleasure.

Claim.—The apparatus herein described, consisting of the frame B, provided with the wheels *o*, attached as shown, and the central stud *h*, having the spiral grooves *i*, in combination with the tub A, provided with the inclines *a*, secured to its bottom, and the central block *b*, provided with its central hole and pins *c*, when arranged to operate as and for the purpose herein set forth.

No. 51,686.—JOSEPH ALEXANDER BLOOM, Philadelphia, Penn.—*Pump.*—December 26, 1865.—A solid piston in its ascents causes an interior foot valve to open, and an exterior valve on each side near the bottom to close. In descending it closes the foot and opens the side valves, passing through the latter and upward through tubes continuous therefrom. The water ascends to a reservoir above the cylinder, whence it flows, as described, there being check-valves for its retention. This pump is operated by a break having a toothed segment at the inner end and an arrangement of gearing connected with the piston rod.

Claim.—The combination and arrangement of the parts R C P R P H and system of valves.

Also, in combination therewith, the lever, constructed and operated substantially as described.

No. 51,687.—JOHN S. BODGE, Bath, N. Y.—*Grain Separator.*—December 26, 1865.—The distinguishing feature in this invention relates to the thickness of a perforated plate, and the diameter of the holes, with a board placed above so near as to prevent oats from passing through the perforations, while wheat is allowed to pass, and thus the oats and wheat are separated.

Claim.—First, the jointed bars G for the rear portions of the screens to rest upon, to admit of the ready varying of the inclination of the screens, as set forth.

Second, the combination with a screen, or riddle, adapted to move independently of its shoe, of the triangular bar H, so constructed and located as to confine the vibratory movement of the screen above the place which it occupies when at rest, or, in other words, prevent the sagging or depression of the screen while in operation, substantially as described.

Third, in combination with the board *m*, or *m**, or other device to prevent the longer grain from assuming a vertical position under the circumstances set forth, a sieve, or riddle, whose apertures or openings are made of a certain determinate depth with a view to prevent the longer grain from passing through the sieve in any of the inclined positions into which it may be thrown by the movement of the sieve, substantially as described.

Fourth, the valve J arranged within the shoe B, and in relation with the screen *c*, substantially as and for the purpose specified.

Fifth, the hinged board A′, arranged substantially as shown, to form a connection between the two shoes B B′, when required.

No. 51,688.—FREDERICK BREMERMAN, Indianapolis, Ind.—*Machine for Boring Wagon Hubs.*—December 26, 1865.—This invention consists of a tool guide placed in between two plates that are centred upon the ends of the hub, in such a manner as that when the tool bores out the wood the edge of the reamer cutter will take hold of the guide at each end of the hub, when the guide revolves with the cutter, causing the cutter to finish the hole in the hub centrally with the hub, and it can cut no further than where it comes in contact with the guide.

Claim.—The tool guide for boring out wheel hubs for boxes, when the same is constructed and operated substantially as and for the purposes set forth.

No. 51,689.—D. J. BROUGHER, Harrisburg, Penn.—*Broom Head.*—December 26, 1865.—This invention consists of a thin metallic case, and a yielding metallic band, secured by bolts and nuts with the handle and broom corn.

Claim.—A broom head consisting of the thin metallic case A, provided with the band C, and bolts *a*, all arranged and operating as shown and described.

No. 51,690.—GEORGE C. BUNSEN, Belleville, Ill.—*Revolving Fire-arm.*—December 26, 1865.—The stock of the arm is made hollow, and contains a system of gear or toothed wheels driven by a coiled spring, by which the various operations of revolving the cylinder, discharging the hammer, &c., are accomplished on pulling the trigger.

Claim.—First, a revolving fire-arm adapted in the manner herein described to discharge the chambers of the cylinder successively through one barrel by a single pull of the trigger.

Second, the cocker K for operating the hammer, constructed and operated substantially as above described.

Third, the lever *a* for rotating the cylinder, in combination with the crank that drives it, and the fulcrum pins *b c*, or their equivalents, substantially as described.

Fourth, the disk E made in two sections, with solid blocks Y in their perforations to receive the blows of the hammer, and prevent the escape of gas into the hollow butt, substantially as described.

Fifth, the combination with the lever *a* of the lever block 13 14, operating upon the bolt 15, as described, to lock and unlock the revolving cylinder.

Sixth, in combination with the parts specified in the preceding clause the eccentric surface on the block 13, to close the disk against the cylinder and the spring 5, to withdraw said disk.

Seventh, the combination of the fan wheel with the segment wheel *c*, and the mechanism for rotating the disk I, and operating the cocker and the lever *a*, substantially as described.

Eighth, the segment or fractional pinion C′, and its train of gearing Q Q′, &c., so arranged with the mechanism which cocks the hammer and rotates the cylinder as to be in action to retard the speed of the mechanism when the hammer is striking the cap, substantially as described.

No. 51,691.—THOMAS R. BYRNES, Washington, D. C.—*Fence.*—December 26, 1865.—This invention is designed with a view to render unnecessary the digging of post-holes, and the employment of nails in the fence, which has all the requisites of a neat, cheap, and strong farm enclosure. It is arranged in a zig-zag form.

Claim.—The fence herein described, the same consisting of the notched batten or uprights A, and notched rails B, connected or interlocked, substantially as described.

No. 51,692.—W. P. CAIN, Moravia, Iowa.—*Tuyeres.*—December 26, 1865.—This invention consists in the combination of a spherical chamber with an inclined tube, having in its lower end a plug, which may be taken out to discharge the ashes which fall into the tube; said plug has a valve attached to it in such a manner as to admit air when the bellows is not at work, sufficiently to keep the fire alive.

Claim.—As a new article of manufacture the tongue herein described, consisting of the spherical body A, nozzle B, tube D, plug E, and valve, arranged and employed in the manner and for the purpose described.

No. 51,693.—AUGUSTUS CLARK, Amsterdam, N. Y.—*Coffin Handles.*—December 26, 1865.—This invention consists of a connection or jointing of the ends of a handle for coffins, burial caskets, &c., to the fixed plates of the same, whereby when the handle is turned up

into a horizontal position or nearly so, it will be held there until relieved by bringing sufficient downward pressure thereupon.

Claim.—The combination of the hinged-handle arm *b* and sustaining spring *g*, constructed, arranged, and operating as described.

No. 51,694.—CHARLES H. CLARK, Wilmington, Del.—*Parallel or other Rods.*—December 26, 1865.—This invention relates to an arrangement of the boxes in the ends of parallel and other rods, such as are generally used to couple the wheels of locomotive engines, or to transmit motion from one part of an engine or other machine to another part.

Claim.—The combination of the divided cap D, plate E, set screw *d*, and wedge key *k k'*, substantially as and for the purpose described.

Also, the hook *l*, and screw *d*, in combination with the keys *k k'*, constructed and operating substantially as and for the purpose specified.

No. 51,695.—G. E. CLARK, Racine, Wis.—*Car Coupling.*—December 26, 1865.—This invention consists of a shackle attached to each draw-head, provided with hooks at their outer ends, and fitted in the draw-head so as to work or swing vertically, one being made to catch over the inner end of the other. A coil spring is attached to one of the journals of the shackles for the purpose of keeping the latter in a longitudinal position. Chains are attached to the rear parts of the shackles, and having levers connected to their rear ends for the purpose of uncoupling the cars.

Claim.—The shackles B, provided with hooks *a* at their outer ends, and fitted in the draw-heads so as to work or swing vertically, and one catch over the inner end of the other, substantially as and for the purpose herein set forth.

Also, the coil springs *c* attached to one of the journals of the shackles, for the purpose of keeping the latter in a horizontal position, as described.

Also, the springs D placed within the draw-heads A A, when used in combination with the shackles B, substantially as and for the purpose specified.

Also, the chains D attached to the rear parts of the shackles B, and having levers E connected to their rear ends, substantially as and for the purpose set forth.

No. 51,696.—JOSEPH H. CLARK, Westbrook, Me.—*Swing Jack.*—December 26, 1865; antedated December 13, 1865.—This invention consists in a device for raising and placing railroad cars on the track when they have got off, and also for raising heavy weights.

Claim.—First, the employment and use of the joint at the base D.

Second, the combination of the joint at the base D, with the pieces A B C, and the brace G.

No. 51,697.—S. G. CLOUGH, Waupun, Wis.—*Rubber Spring for Wagons.*—December 26, 1865.—This invention consists of two sets of cast-iron cups attached to the rear axle and bolster of a wagon, in such a manner as to receive rubber springs, on which pistons are placed which are attached to the cross-bar above the bolster, and which support the load; also, in using two cups for the forward axle, which latter is made in such a manner as to hold the spring, and thus answer the purpose of bolster plates, and keep out dirt.

Claim.—The combination and arrangement of the cups E E, the axle M, and bolster L, with the double-headed piston F F, and cross-bar G, all constructed and operating substantially as set forth, for the purpose described.

No. 51,698.—GEORGE W. COOK, Rock Island, Ill.—*Railroad Car.*—December 26, 1865.—This invention consists in attaching to the under side of the frame of a truck, between the wheels, a box or frame containing four self-adjusting rollers, slightly elevated above the rails, which, upon the cars leaving the track, come in contact with the rails and adjust themselves at a proper angle to conduct the car back in the direction from which it came, thereby preventing the truck or wheels from coming in contact with the ground.

Claim.—The self-adjustable conducting rollers D in combination with their elongated boxing B, in which they play, when applied to railroad cars and locomotives, for the purpose herein described and set forth.

No. 51,699.—L. E. DENISON, Winthrop, Conn.—*Pressure Frame for Photographic Printing.*—December 26, 1865.—The object of this invention is to furnish a photographic pressure or printing frame which may be opened and the picture or representation examined without disturbing the position of the paper or interfering with the successful result of the operation, and it consists in combining with a stationary cushion two or more clasps for holding the paper, and in combining with the movable negative frame springs for regulating the pressure during the operation.

Claim.—First, the combination of the stationary cushion B with the pressure frame of a photographic apparatus, substantially as described and for the purpose set forth.

Second, the combination of the clasps D, two or more, with the stationary cushion B in the pressure frame of a photographic apparatus, substantially as and for the purpose set forth.

Third, the combination of the movable spring negative frame G with the frame F and stationary cushion B in the pressure frame of a photographic apparatus, substantially as described and for the purpose set forth.

Fourth, the combination of the springs I, or their equivalent, with the movable negative frame G and the frame F in the pressure frame of a photographic apparatus, substantially as described and for the purpose set forth.

No. 51,700.—P. S. DEVLAN, Jersey City, N. J. —*Composition for Lining Journal Boxes.*—December 26, 1865.—This invention consists of a composition of vegetable fibre, plumbago, soapstone, and gum, or bitumen.

Claim.—The composition as herein described, consisting of vegetable fibre, plumbago, soapstone, and gum, or the equivalent of the latter, as set forth.

No. 51,701.—P. S. DEVLAN, Jersey City, N. J.—*Composition for Lining Journal Boxes.*—December 26, 1865.—This invention consists of a composition of silicate of soda or potash, fibrous substance, plumbago, and soapstone.

Claim.—The compound substantially as described, consisting of silicate of soda or potash, vegetable fibre, plumbago, and soapstone, as set forth.

No. 51,702.—P. S. DEVLAN, Jersey City, N. J.—*Composition for Lining Journal Boxes.*—December 26, 1865.—This invention consists of vegetable fibre, such as paper pulp, saturated with equal parts of silicate of soda or potash.

Claim.—The compound substantially as described, as a lining for journal boxes and other rubbing surfaces, and consisting of silicate of soda or potassa and vegetable fibre.

No. 51,703.—W. P. DICKINSON, Reading, Penn.—*Filters and Coolers.*—December 26, 1865.—This invention consists of an apparatus for removing sediment from the bottom of a filtering device by a peculiar arrangement of its several parts. The large chambers are made of stone-ware pipe, iron, or any other material according to the pressure of the water. The water passes through a supply pipe into a filtering chamber, thence through a filtering box, thence into a receiving chamber, thence through a pipe into the cooler.

Claim.—The arrangement of the sediment chamber B, filtering box *c*, water chamber D, pipe E, cooling chamber T, discharge pipe F, and cocks S and G, as and for the purpose specified.

No. 51,704.—JOHN W. DIXON, Philadelphia, Penn.—*Process for Pulping Wood, Straw, &c.*—December 26, 1865.—This invention consists in subjecting the woody matter in a digester provided with a diaphragm to the action of currents of highly heated water, under pressure, and also in forcing into the digester at intervals or continuously, by means of a pump or a Giffard injector, fresh water to replace the gummy water forced out.

Claim.—First, the continual circulation of highly heated water in a liquid state, under pressure, through a mass of woody matter retained in a digester, whereby all mechanical treatment of the woody fibrous material, while subjected to the action of highly heated water under pressure, is obviated.

Second, the combined process of continually circulating highly heated water in a liquid state, under pressure, through the mass of woody matter retained in a digester, and of injecting at intervals, or continually, fresh water into said circulating water within the digester, to supply the place of an equal quantity of refuse water forced out.

No. 51,705.—JOHN W. DIXON, Philadelphia, Penn.—*Process for Pulping Wood, Straw, or other Vegetable Fibres.*—December 26, 1865.—This invention consists in subjecting the wood, &c., to the action of a current of highly heated water, under pressure, in a digester A, provided with a perforated diaphragm at each end, and with a series of rotary stirrers *r r*, &c., as shown in the drawing.

Claim.—Subjecting wood, woody matter, straw, and other analogous vegetable matter to the chemical action of highly heated water, under pressure, in a liquid state, within a digester, wherein the mass is merely stirred together subtantially as above described.

Also, in combination with subjecting wood, woody matter, and other fibrous material to the action of highly heated water in a liquid state, under pressure, in a digester, wherein the mass is merely stirred together, the injection of fresh water into the mass while the pressure is maintained, either continuously or at intervals, to supply the place of an equal quantity of water escaping or forced out.

No. 51,706.—JOHN W. DIXON, Philadelphia, Penn.—*Process for Treating Vegetable Fibre for the Manufacture of Paper Pulp.*—December 26, 1865.—This invention consists in subjecting the fibre to the action of a current of highly heated water under a pressure of from one hundred and fifty to two hundred pounds in a revolving digester provided with perforated diaphragms, the water being forced through one trunnion and out through the other trunnion, a valve being arranged to open as fresh water is supplied to the digester and allow the refuse to escape.

Claim.—First, subjecting wood, woody matter, straw, or other analogous vegetable fibrous material, to the chemical action of highly heated water under pressure, in a liquid state, in a revolving digester, substantially as above described.

Also, in combination with subjecting wood, woody matter, straw, and other analogous vegetable fibrous material, to the chemical action of highly heated water under pressure, in a liquid state, while revolved in a digester, the forcing into the woody matter, within said revolving boiler, either continuously or at intervals, fresh water to replace an equal quantity of refuse water forced out or escaping therefrom, substantially as above described.

No. 51,707.—GEORGE W. FARLEY, Manchester, N. H.—*Grain Drill.*—December 26, 1865.—This invention consists of a light hand machine, which is constructed of one bearing and one driving wheel, with cogs attached to the driving wheel, and worked by means of a lever, which is convenient to use, easy to regulate, and not liable to get out of order.

Claim.—First, in a seed drill, the hooked rock shaft M in combination with the adjustable pawl N O and spiral spring *u*, substantially as and for the purpose set forth.

Second, the seed valve K in combination with the bed piece G and adjustable slides R, all constructed and arranged substantially as and for the purposes set forth.

Third, the cogs on the side of the wheel C in combination with the hooked rock shaft M, the pawl N O, and seed valve K, all constructed substantially as and for the purposes set forth.

No. 51,708.—WILLIAM FAWCETT, New York, N. Y.—*Safety Stirrup Fastening.*—December 26, 1865; antedated December 13, 1865.—This invention consists in hanging the loop of a stirrup strap to and within a spring-swinging frame, the upper end of the stirrup having a hinged side.

Claim.—Hanging the loop of a stirrup strap to and within a spring-swinging frame of the upper end of the stirrup, having a hinged side, and arranged and operating substantially in the manner described and for the purpose specified.

No. 51,709.—EDWARD A. FIELD, Sidney, Maine.—*Hay Press.*—December 26, 1865.—This invention is explained by the claim and engraving.

Claim.—The combination of the two opposite diagonal grooves *g' g'*, or their equivalents, with the press box and the compressing mechanism thereof, such grooves being arranged therein as described, and so as to receive one or more divisional partitions, in manner and for the purpose set forth.

Also, the combination of one or more divisional partitions *i* with the press box and its platen or compressing machinery, and to operate therewith substantially as and for the purpose as specified.

Also, the combination and arrangement of the rotary arm *p*, or the same or its turn button with the spring *o* of the pawl lever, applied to the series of teeth or studs of the windlass wheel.

No. 51,710.—E. OTIS FRINK, Indianapolis, Ind.—*Gate Latch.*—December 26, 1865.—This invention consists in arranging the latch within a case, which is attached to the gate in a vertical position, so as to admit of sliding the latch upward to release the gate, and downward to take it into the catch.

Claim.—First, the said sliding latch when the same is constructed with the projection K, the slot L, and handle E, and operated substantially as set forth.

Second, the said shield or basket M F F M when constructed and applied substantially as set forth.

Third, the improved device as a whole, constructed and operated substantially as set forth.

No. 51,711.—SAMUEL C. FRINK, Indianapolis, Ind.—*Hinge.*—December 26, 1865.—This invention consists in having a spindle cast on the right-hand hinge plate, and having a bar also cast upon said spindle. A slot is made into the left-hand leaf, so as to allow the lug on the spindle to pass through it when the leaves of the hinge are closed, but when open they are secured by means of the lug.

Claim.—The combination of the said lug D, the spiral groove E, and the slot A G, when the same are constructed and operated substantially as set forth.

No. 51,712.—JOHN G. GARNER, Ashland, Penn.—*Whiffletree Attachment.*—December 26, 1865.—This invention consists in attaching a whiffletree to the cross-bar of the thills, or to a double-tree, and attaching a double-tree to the draught pole in such manner that the connecting bolt is relieved from all strain under the pull of the team, and the bolt as well as the whiffletree thereby prevented from bending or breaking.

Claim.—The plate C provided with the lips, as shown, and secured to the bar A by the bolt D, in combination with the tube E, fitted in the whiffletree, and the plate F, at the front side of the latter, the bolt D, passing through the tube E, and all arranged to operate in the manner substantially as and for the purpose herein set forth.

No. 51,713.—REUBEN C. GROVER and JAMES NICKELSON, Newton, Mass.—*Rotary Pump.*—December 26, 1865.—This pump is composed of a cylindrical casing, which has

upon its upper side and passing through its periphery a gate encased within its external shield, actuated by a spring, which presses it tightly upon the periphery of a cylinder revolving within the casing, said inner cylinder being provided with abutments upon its periphery, which are patched by means of a metal block fitted in a recess in said abutment, and pressed outward tightly against the inner periphery of the casing. The induction and eduction pipes are on either side of the gate. The pump is operated by a crank passing through the centre of the casing and cylinder.

Claim.—The revolving cylinder C provided with two or more cams or abutments F G, in combination with the outer casing A and gate J, operating substantially as described.

No. 51,714.—JOHN DANIEL GRUNEBERG, Philadelphia, Penn.—*Manufacture of Plated Metal.*—December 26, 1865.—This invention consists of an alloy of lead and zinc, covered with tin and rolled out into sheets.

Claim.—The aforesaid new and improved plated metal and covered metal, or any other substantially the same, and which will produce the intended effect.

No. 51,715.—JOHN HARTMAN, Jr., Philadelphia, Penn.—*Automatic Car Brake.*—December 26, 1865; antedated December 14, 1865.—The nature of this invention mainly consists in constructing a brake with a sheet of India-rubber, or other equivalent substance, combined therewith in such manner as to remove an animal or other object from the track with less injury to the former than would be inflicted by ordinary brakes; also in making the resistance operate the brake.

Claim.—First, the combination and arrangement of the check blocks D with the brake frame B by means of the suspension rods *a a* and G, the journal boxes being rigidly attached to the said frame, and the whole being arranged and operating substantially in the manner and for the purpose above set forth.

Second, combining and arranging the India-rubber sheet G, or its equivalent, with the check blocks D, substantially in the manner and for the purpose set forth.

Third, the combination and arrangement of the guard I with the brake frame B by means of the suspension rods *g* and bars *h*, or their equivalents, substantially as described.

No. 51,716.—JOHN H. HENDRICKS, Clinton, Ill.—*Beehive.*—December 26, 1865.—This invention consists in making holes in the lower part of one of the side pieces, so that the bees can pass through to the entrance of the hive, and thus permitting them to alight on either side.

Claim.—The perforations *e*, at the lower part of one of the side pieces *a* of the hive, when used in connection with the alighting boards *c c*, end pieces, and inclined sides *a a* of the hive, and the bee entrance *d*, all arranged substantially as and for the purpose set forth.

No. 51,717.—ISAAC F. HERSAM, Stoneham, Mass.—*Green-house Sash.*—December 26, 1865.—This invention consists in the arrangement of a series of metal bars or rods so connected with each other that when the heat reaches a degree greater than required, these rods, by expansion, will open the sash automatically.

Claim.—A series of devices, as hereinbefore described, for operating the sashes of green-houses, &c., by means of the expansion and contraction of the metallic bars *e e g g*, &c., substantially as specified.

No. 51,718.—E. S. HIDDEN, New York, N. Y.—*Means of Closing Ship's Lights.*—December 26, 1865.—In this invention ship's lights are closed by a lever and screw. Within the lever is a screw, the turning of which more or less compresses the packing of the light.

Claim.—A swinging arm or strap provided with both a cam and a screw, and hinged so as to vibrate as described, in combination with a top or glass frame of a ship's light, the combination being substantially such as hereinbefore described.

No. 51,719.—PHILIP HIGDON, Cropper's Depot, Ky.—*Hoisting Machine.*—December 26, 1865.—This invention consists of an arrangement of parts in a hoisting machine whereby a brake or pawl is dispensed with and facility afforded for raising bodies more or less rapidly, according to their respective weights.

Claim.—The arrangement of the double-threaded worm wheel F, the shafts H J, and pulley L, substantially as described and represented.

No. 51,720.—S. L. HILL, Williamsburg, N. Y.—*Toy Blocks.*—December 26, 1865.—This invention consists in the employment of a series of building blocks which are marked on one side with parts of the outside of one, and on the opposite side with parts of the surface of another building in such a manner that by turning the corresponding sides of all the blocks out and placing them together in the proper order, two different buildings can be produced by the same series of blocks.

Claim.—First, the employment or use of a series of building blocks marked on different sides with the parts of the surface of different buildings, substantially as and for the purpose described.

Second, the longitudinal grooves *b*, in the boards D, to operate in combination with the dowels *a*, in the edges of the triangular edges *c*, substantially as and for the purpose set forth.

Third, the use of building blocks having marked on their different sides parts of the same or of different buildings, the various sides being distinguished by different colors, substantially as and for the purpose described.

No. 51,721.—WILLIAM H. HOWELL, Ewingsville, N. J.—*Cultivator.*—December 26, 1865.—This invention consists in the arrangement of two diagonal slotted bars, in connection with the tongue and axle, in the attachment of cast-iron pendants to those bars, and the attachment of the plough beams to the pendants by pivots and a cast-iron elbow-lever so arranged and attached that the plough can be raised from the ground thereby. The diagonal slot bars are so constituted that the plough beams can be adjusted as to their relative distances.

Claim.—First, the frame, consisting of the diagonal slotted bars A A, tongue B, and axle D, arranged as shown and described.

Second, the elbow lever *b*, connected to the plough by rod *c*, or its equivalent, in combination with the handle *a*, and bar *f*, provided with the hook *e*, when arranged to operate as and for the purpose set forth.

Third, the combination and arrangement of slotted bars A, pendants E, drag bars F, and bar C, as shown and described.

No. 51,722.—J. M. HURD, Auburn, N. Y.—*Flour Sack.*—December 26, 1865.—This invention is intended to overcome the difficulty heretofore existing in forming the bottoms of paper sacks.

Claim.—The making of paper bags in the manner described, as a new article of manufacture.

No. 51,723.—THOMAS H. JENKINS, New York, N. Y.—*Process for Hardening Iron.*—December 26, 1865.—This invention consists in heating the iron to a cherry-red heat and while in that condition hammering it to render it compact. It is then covered with a composition of charcoal and prussiate of potash and again heated to a cherry-red heat, after which it is plunged into a bath composed of twenty-eight gallons of water, eight pounds of oil of vitriol, forty-four ounces of sal ammoniac, twenty ounces of glauber salts, and thirty ounces of common salt.

Claim.—First, the process, substantially as above described, for hardening malleable and non-malleable cast iron by plunging it while at or about a cherry-red heat in a solution, substantially as herein described.

Second, in combination with and preparatory to the hardening in a solution, substantially as herein described, the treatment of the iron in a heated state with a composition of prussiate of potash and charcoal, substantially as herein described.

No. 51,724.—THOMAS H. JENKINS, New York, N. Y.—*Substance for Making Cutlery, Edge Tools, &c.*—December 26, 1865.—This invention consists in giving to malleable cast-iron the properties of steel by first heating it to a cherry-red heat and hammering, and then heating again to cherry-red heat and sprinkling it with prussiate of potash and charcoal, after which it is again heated and plunged in a bath composed of water, sulphuric acid, sal ammoniac, glauber salts, and common salt.

Claim.—The new substance herein described, produced from malleable cast iron, by the process herein described, or any process equivalent thereto.

No. 51,725.—GALLATIN M. JOHNSON, Decorah, Iowa.—*Machine for Marking Corn Ground for Planting.*—December 26, 1865.—This invention consists in two independent adjustable axles fitted in a frame and adjusted by means of slots in plates secured to the frame for the purpose of marking out rows preparatory to planting. The axletree whrch carries the marking wheels is attached to a rock shaft having its bearing on a line parallel with the direction of the track of the machine.

Claim.—A machine for the purpose of marking land with two independent adjustable axles, arranged and operated substantially as described.

No. 51,726.—NIELS JOHNSON, Ripon, Wis.—*Pump.*—December 26, 1865.—A submerged double-acting pump, with hollow piston and cylinder rod, having springs attached to its sides, and pressing against the wall of the well at different elevations. The upper ends of these bows may be drawn inwards by a cam arranged to be operated from the top of the well, when it is desired to draw the cylinder from the well. As the water is all admitted through the foot valve, small valves are opened at the top of the cylinder by the descent of the piston rod, to prevent a vacuum in the upper part of the cylinder.

Claim.—First, the lower springs L surrounding the bottom or foot of the pump, and operating to hold that part steady in the well, substantially as described.

Second, the springs H H on the outside of the cylinder, made with pins *b b*, in combination with the rotating spring plates *c c*, by which the springs H are forced against the side of the well, substantially as described.

Third, the cross-piece *m* and its arms *n*, in combination with the eccentric *u* of the collar G, substantially as described.

Fourth, the valves *t t* in the upper part of the cylinder, constructed as shown, with springs placed about their spindles, so arranged as to admit air to the cylinder at the downward stroke of the piston, substantially as described.

No. 51,727.—W. JOHNSON, Topsham, Me.—*School Desk.*—December 26, 1865.—This invention consists in the combination with the top or lid of a desk, of a book-rest, adapted for adjustment at different angles.

Claim.—The combination and arrangement of the hinged book-rest C, rack *c*, stop or pin *d*, and lid B, as and for the purposes described.

No. 51,728.—L. W. KELLEY, Brunswick, Ohio.—*Compound for Tempering Steel Springs, &c.*—December 26, 1865.—This invention consists of a composition of gum arabic, saltpetre, common salt, white glue, acetic acid, and whale oil.

Claim.—The chemical compound as herein set forth, for the purpose specified.

No. 51,729.—MILLIS KNICKERBOCKER, New Lenox, Ill.—*Electro-magnet for Oil Wells.*—December 26, 1865.—This invention consists of an electro-magnet of peculiar form, for the purpose of letting down into oil wells to bring up bits of iron, broken drills, &c. The legs of the magnet are hinged, and to the poles are attached pieces of soft iron, called grab irons, for the purpose of embracing between them substances to be withdrawn.

Claim.—The combination with an electro-magnet, having its legs protected by any suitable covering, of the grab irons *n n*, the whole being constructed, arranged, and operated substantially in the manner described and for the purpose specified.

No. 51,730.—OBADIAH B. LATHAM, Seneca Falls, N. Y.—*Sand Pump.*—December 26, 1865.—Through a tube, inside or outside of the pump tube; air or water is discharged into the well, beneath the valve which lifts the sand.

Claim.—Promoting the operation of a sand pump by the admission of a flow of air or water down and beneath the valve, substantially as shown and described.

No. 51,731.—E. S. LENOX, New York, N. Y.—*Potato Digger.*—December 26, 1865.—This invention consists in such an arrangement of two mould-boards as will, when drawn forward under the soil, cleave it on opposite sides, turn it inward toward the centre, raise it on the mould-boards, and discharge it over the rear end of the digger. A rake follows in the rear, which raises the potatoes from the soil, and leaves them upon the ground.

Claim.—An arrangement of mould-boards, substantially such as described.

Also, in combination with two mould-boards, arranged as specified, the stirrers, which bring the potatoes to the surface of the ground.

Also, the combination of the centre point with two mould-boards, arranged to turn the soil inward, substantially as set forth.

Also, in combination with such mould-boards, operating as described, the guide wheels which gauge the depth of operation of the mould-boards, and guide and steady the implement in its progressive motion.

No. 51,732.—JAMES LEWIS, Wellington, Ohio, assignor to NELSON BACON.—*Press.*—December 26, 1865.—This invention consists of a press so constructed and arranged as to its several parts, that the substance undergoing the operation is acted upon and pressed by its own weight.

Claim.—The combination of the pressing levers C C, the connecting ties D D, the head piece H, and the governing lever G, with the frame A, and the sliding beam B, when constructed and arranged substantially as described and as specified, for the purposes set forth.

No. 51,733.—HENRY LINK, Little Falls, N. Y.—*Shirt Fastener.*—December 26, 1865.—This invention consists of a stud for fastening shirt bosoms, made in two separate parts, which by reason of their shape are prevented from becoming disconnected accidentally, the same being designed for use as well as ornament.

Claim.—First, the manner herein described of fastening together shirt bosoms, or other garments, or of securing ornaments to persons; that is, when a device consisting of two parts A B is used, each part being so constructed that its lower portion is heavier than its upper, so as to cause it to remain in an upright or vertical position, substantially as described.

Second, the combination of the back plate A and ornament B, substantially as described.

No. 51,734.—JOEL LOCKE, Bridgeport, N. J.—*Lifting-jack.*—December 26, 1865.—This invention consists in the employment of two upright standards or legs, having the lifting-lever pivoted to or between them, and in the arrangement of a pawl, in connection with teeth or stops in the lifting-lever, for locking or retaining the lifting-lever at any desired point.

Claim.—A lifting-jack, consisting of two legs A B, lifting-lever C, and pawl D, combined and arranged substantially as shown and described.

No. 51,735.—JOHN K. MAYO, Portland, Me.—*Material for Roofing, Tubing, Tanks, Wainscoting, Boats, and other Structures.*—December 26, 1865.—This invention consists in uniting veneers or thin shells of wood, so as to cross the grain of the respective pieces, the material thus formed being used for the manufacture of pipes, drains, ships' tanks, floors, &c.

Claim.—The application of scale boards or veneers in layers, the direction of whose grain is crossed or diversified, and which are connected together, forming a material for the construction, lining, or covering of land and marine structures.

No. 51,736.—REUBEN A. MCCAULEY, Baltimore, Md.—*Pump.*—December 26, 1865.—A submerged pump, discharging water laterally near the top of the working cylinder, the piston rod descending in the open well, until it reaches the cylinder. The piston rod is enlarged at its lower end into a disk a little less in diameter than the pump cylinder. Upon this head is seated an annulus guided by an interior transverse bar through an enlargement, at the centre of which the piston rod passes, the said annulus having a check to limit its play.

Claim.—First, the piston head *b''* and the sliding valve J, as arranged in relation to the cylinder and piston rod, all substantially as described, for the purpose set forth.

Second, enlarging the piston rod above the play of the valve and throughout the extent of the cylinder, when used in connection with head *b''* and valve J.

No. 51,737.—EDWARD F. and JOHN MCFARLAND, Worcester, Mass.—*Spring and Weight Piston Engines and Stamping Machine.*—December 26, 1865.—The object of this invention is to obtain power from the alternate extension and retraction of loaded springs, which are suspended from the extremities of an oscillating beam, for driving machinery, and other purposes.

Claim.—The employment of loaded springs, which are suspended from the extremities of an oscillating beam, and guided in their upward and downward movements, substantially in the manner described.

No. 51,738.—JAMES MCPHERSON, Rockford, Ill.—*Horseshoe.*—December 26, 1865.—The shoe in this instance is fastened to the hoof by steel clasps, which are bolted to the under surface of the shoe, and bent at right angles, and pass upward through a recess in the outer edge of the shoe, so as to embrace the hoof above. The clasps at the upper end terminate in a spear, which is inserted in a hole in the hoof, and assists in holding the shoe in position.

Claim.—The combination of the steel spring clasp with the shoe, when constructed and arranged substantially in the manner and for the purpose described.

No. 51,739.—WILLIAM H. and G. W. MILLER, West Meriden, Conn.—*Breech-loading Fire-arm.*—December 26, 1865.—A pivoted or hinged breech-block, swinging back from the rear open end of the barrel, is provided with a spring sliding catch in front, which enters suitable recesses in the sides or cheeks of the breech, while an arm or detent attached to the said spring catch serves to lock the percussion rod, and prevent its transmitting a blow to the cartridge until the said spring catch is safely in place.

Claim.—The latch E, arranged and operating in combination with the face plate *b*, oscillating breech-piece B, and catch *i*, substantially as described.

Also, the detent *r*, in combination with the bar *o*, and breech-piece B, constructed and operating substantially in the manner and for the purpose described.

No. 51,740.—GEORGE O. MONROE, New York, N. Y.—*Buckle.*—December 26, 1865.—This invention consists in a frame and a bar, without any tongue. An angular lip receives and holds the end of the strap, which is folded back upon itself, and passes between the cross-bar and the lip.

Claim.—The combination of the angular lip *c* and cross-bar *d* in the buckle frame A, as specified, so as to receive and hold the end of the strap folded back upon itself, and passing between the said cross-bar and lip, as and for the purposes specified.

No. 51,741.—JAMES H. MASON, Franklin, Mass.—*Coffee Percolator.*—December 26, 1865.—The device is made in three parts—a main chamber, an upper chamber, and a strainer. The first has a perforated bottom around the lower parts of the first, the second fits in its close bottom and perforated sides, and flange at top. The lower edge of the second fits into a socket or recess midway down inside the first, which passes a water joint. From an aperture in the bottom of the upper chamber depends a narrow flange, and a little below this is hung a cup of larger diameter than it, and practically forming a water joint. Depending from the bottom of this cup are springs, to which is attached a perforated disk, equal in diameter to the lower strainer in which it fits.

Claim.—The construction of the coffee and water vessels *a b* with fluid joints, in the manner and for the purpose substantially as set forth.

No. 51,742.—J. W. NORCROSS, Middletown, Conn.—*Hoisting Tackle*—December 26, 1865.—The tackle block is made by casting the shell upon a steel or wrought-iron clevis, the latter having a hole near its lower end through which to pass the pulley axle, and being of such a form otherwise as to allow the melted metal to flow around its salient points, and thus

effectually prevent its becoming loose. The shell is cast quite thin, and is afterwards rendered malleable in the usual manner.

Claim.—First, the clevis B, constructed substantially as described, and combined with the cast metal block H and axis pin *d*, as explained.

Second, forming the becket seat in the end of the block, as and for the purpose specified.

Third, the ribs *g* on the cheeks of the block A′, in combination with the bosses *h*, on the ends of the shanks of the clevis, constructed and operating substantially as and for the purpose set forth.

No. 51,743.—JAMES T. DONALD, Clinton, Ohio.—*Clothes Wringer.*—December 26, 1865.—This invention consists in placing the rollers diagonally between standards that will spring with the pressure, and a spiral spring to retain them in position. A suitable drip board is used, and the lower ends of the standards fit on a straight or curved tub.

Claim.—The spring post *n* and the spring *a*, in combination with rollers R, dripping board D, and the device for attaching the wringer to a tub or box, substantially as described.

No. 51,744.—HERMAN A. OESTERLE, Philadelphia, Penn.—*Machine for Making Netted or Laced Fabrics.*—December 26, 1865.—One-half of the threads are longitudinally disposed in the machine in the manner of warp threads, the other half are carried each by its separate shuttle. Those shuttles are, by means of a vibrating frame, taken from a stationary frame beneath the horizontal threads, and are simultaneously carried above them, when a lateral motion is given to the other threads, so that each shall cross two of the shuttle threads, after which the shuttles and vibrating levers alternately are brought into action to beat up evenly the points of crossing.

Claim.—First, the shuttles P, each carrying a spool of thread X, in combination with the devices herein described, or the equivalents to the same, for retaining and releasing the said shuttles on one side of the system of threads Y, and with the devices described, or their equivalents, for seizing the said shuttles, conveying them between the threads Y, and releasing the same, all substantially in the manner described.

Second, the vibrating or reciprocating cross-bar E, its recesses *a*, and spring catch levers F, in combination with the arms Q on the shuttles, and the projection *i* and the bar O of the rocking frame M.

Third, the stationary cross-bar E′, its recesses *a′*, and spring catch levers F′, in combination with the arms Q, the shuttles and the projection *i*, and the bar O, of the rocking frame M.

Fourth, one or more reciprocating or sliding bars G, or their equivalents, for guiding and laterally moving the threads Y, in combination with the shuttles P, to which the above described movements are imparted.

Fifth, the beaters J and J′, arranged to operate on the threads and the loops of the same, substantially in the manner described and for the purpose specified.

No. 51,745.—JOHN G. PAGE, Rockford, Ill.—*Process for Cleaning Cotton Seed.*—December 26, 1865.—This process consists in placing a quantity of seed with angular pebble stones in a perforated cylinder, the door of which is closed, and the cylinder caused to rotate. The attrition caused by the rotation removes the fibre from the seed.

Claim.—First, the process of cleansing cotton seed or depriving the same of its lint by placing the seed with pebbles, stones, or other hard substances, within a rotating or moving vessel, so that the attrition produced by contact of the moving seed and pebbles or other hard substances within the vessel will accomplish the end desired.

Second, the perforating of the vessel containing the seed and the pebbles or other hard substances, and also the employment of a plurality of perforated doors or removable sections to the cylinder, for the purpose of separating the fine foreign substances from the seed while the latter is being cleansed or deprived of its lint, and also for separating the cleansed seed from the pebbles.

No. 51,746.—AARON PALMER, Brockport, N. Y.—*Mowing Machine.*—December 26, 1865.—This invention relates to the special construction and arrangement of the bearing, which consists of a box for receiving the shaft of the pitman wheel, an axis or journal for receiving the bevel cog-wheel, and spur pinion, together with a flange for attachment to the tongue, all arranged in such a manner as to avoid the use of a main frame.

Claim.—The special construction and arrangement of the bearing D, consisting of box *c* for receiving the shaft of the pitman wheel, the axis or journal *f* for receiving the bevel cog-wheel, and spur pinion and flange *b*, or equivalent, for attaching to the tongue, the whole arranged so as to avoid the use of a main frame, substantially as herein set forth.

No. 51,747.—BENJAMIN PEARSON, Salem, Mass.—*Wagon Wheel.*—December 26, 1865.—The object of this invention is to strengthen wagon wheels at their weak points, viz., at the points where the ends of the felloes meet. It consists in attaching to the rim of the wheel at these points an arched or crown brace or supporter, the ends of which rest against and are secured to the adjacent spokes.

Claim.—A metallic crown felloe supporter, constructed and applied substantially as described, in combination with the rim and spokes of a wagon wheel at the point or points where the segments of the felloes meet, substantially as and for the purpose set forth.

No. 51,748.—DAVID J. PEARSON, Boston, Mass.—*Spoon.*—December 26, 1865.—This invention consists of a common teaspoon, provided with an adjustable lid which covers the bowl, leaving a small aperture at the tip, whereby the contents escape when the spoon is introduced into the mouth. The spoon is also provided with an aperture near the handle, thereby allowing the bowl to be readily filled.

Claim.—The construction or providing a common spoon with an adjustable lid or cover, a dial, and a support, as herein described and for the purposes set forth.

No. 51,749.—JULIUS R. POND, New Haven, Conn.—*Condensing Milk.*—December 26, 1865.—This invention consists in evaporating the milk in a vessel prepared in such a manner that the coagulated albumen will not adhere to its sides, and in raising the heat in said vessel after the charge has been evaporated to one-fourth of its volume, in order to bring the milk to the proper consistency for market.

Claim.—The above-described process of condensing milk, consisting in combining the superheating in the manner substantially as set forth, with the evaporation in the pan of crude milk which has been run into the pan in a cold and uncoagulated state, substantially as described.

No. 51,750.—HIRAM PULSE, St. Paul, Ind.—*Adjustable Harrow.*—December 26, 1864.—This invention relates to the class of harrows which are capable of expansion and contraction, to suit different widths of cultivation and kinds of work. It consists of an arrangement by which it may be made to assume a triangular or other form. It can be adjusted by means of a lever in the rear, which can be operated by the attendant while the harrow is in motion.

Claim.—As new, the arrangement of frame A, fixed and folding harrow beams B C C′ D and D′, and retaining devices G H *i* K, or their equivalents, for the purpose set forth.

No. 51,751.—JOHN B. READ, Tuscaloosa, Ala.—*Manufacture of Paper.*—December 26, 1865.—This invention consists in the use of the okra plant, (Hibiscus esculentus,) for the manufacture of paper. The stalks are pulled up by the roots and dried in the sun, after which the dirt, seeds, &c., are removed. The stalks are broken up and placed in an alkaline solution, after which they are treated in the ordinary manner.

Claim.—The applicability of the stalks of the okra plant, (Hibiscus esculentus,) including the fibrous, the ligneous portion, and the pith of the entire plant, to the manufacture of paper, papier-maché, and its compounds. This is virtually a combination of dissimilar material, whether the resulting paper mass be used alone or in combination with other materials.

No. 51,752.—JAMES REID, Catskill, N. Y.—*Revolving Fire-arms.*—December 26, 1865.—This arm, which is intended as a pocket pistol, has the cylinder inclosed in a frame covering its entire front, excepting the discharging orifice, and without any stationary barrel—the chambers of the cylinder serving as short barrels. The handle has a ring or eye formed by the trigger shield uniting with the lower part of the stock.

Claim.—First, the sliding stop *m o*, fitted as specified, in combination with the frame *e g* and barrels, for the purposes and as specified.

Second, connecting the trigger shield *b* and handle *a* so as to form the bow *d*, for the purposes and as set forth.

No. 51,753.—JOHN B. ROOT, New York, N. Y.—*Locomotive.*—December 26, 1865; antedated December 13, 1865.—The object of this invention is to transmit the power from one cylinder to two pairs of driving wheels, and its novelty consists in the direct connection of the cranks of two driving wheels on either side of the engine by means of two slotted cross-heads on the same piston rod, which passes through both ends of a cylinder arranged between the two axles.

Claim.—The combination of cylinders D, piston rods E E, slotted cross-heads F F′, driving wheels C C′, crank wrists *c c′*, sliding boxes *b b′*, guide rods *d d′*, and guides *e e′*, the whole arranged in relation to the truck or frame A, substantially as herein specified.

No. 51,754.—ELLIOT SAVAGE, West Meriden, Conn.—*Plating Iron and Steel.*—December 26, 1865.—This invention consists in first submitting the steel to the action of melted cyanide of potassium and a salt of silver, such as chloride, when it will cool with a thin film of silver, and may then be further cooled in the ordinary way.

Claim.—The process for electro-plating upon iron and steel, substantially as herein set forth.

No. 51,755.—GEORGE SCHOTT, New York, N. Y.—*Bedstead Bottom.*—December 26, 1865.—This invention consists in a frame, the cross pieces of which are notched and covered with felt or other yielding material to receive the notched ends of spring slats in connection with notched rails.

Claim.—The bed bottom formed of slats with notched ends sustained by notched cross pieces covered with felts or other yielding material for the purposes and as speciffed, and in combination therewith the rails *a*, notched to receive the cross pieces *b*, and form a frame as set forth.

No. 51,756.—JOHN SCOTT, Ocala, Fla.—*Carriage Wheel.*—December 26, 1865.—This invention consists in constructing a cast iron hub with projecting flanges from the box, the said flanges being covered with a wrought iron band so as to form the oil chamber with openings through which the oil is introduced. Between the spokes are triangular cleats which may be cast with the flange or be made separate therefrom.

Claim.—The making a cast iron hub as described, with projecting flanges from the box, which flanges are covered with a wrought iron band, thus forming the oil chamber with openings I and H, as shown and described.

Also, in combination with hub band and oil chamber as above described, the double set of spokes with the cleats constructed and arranged as set forth, for the purposes specified.

No. 51,757.—CHARLES SHABLEY, Brooklyn, N. Y.—*Pulverizing and Furrowing Device.*—December 26, 1865.—This invention consists in the employment of a series of furrow openers applied to a frame which is mounted on wheels, the said frame having a pulverizing attachment at its front end, composed of the reciprocating toothed plates, operated from the driving wheel through the medium of a crank shaft and pinion.

Claim.—First, the furrow openers or shares *l*, attached to a frame mounted on wheels in combination with reciprocating toothed plates G G, arranged and applied to the machine, to operate in the manner substantially as and for the purposes herein set forth.

Second, the attaching of the plates G G to the machine by means of arms E, two or more fitted on a bar F, and arranged substantially as shown, to admit of the raising and lowering of said plates as described.

Third, the operating of the plates G G from the driving wheels through the medium of crank shafts and pinions I J, and connecting rods *f*, the shafts I having their bearings in sliding or adjustable rods or shafts H H, connected to a lever K, by which the plates G G may be readily rendered operative or inoperative as desired.

No. 51,758.—WILLIAM B. SMITH, New York, N. Y.—*Egg Beater.*—December 26, 1865.—At the lower end of a vertical reciprocating rod is a flat metallic ring nearly equal in diameter to the main vessel and connected with the ferrule by flat bars; in each of the angles formed by the ferrule and the bars is an upright triangular knife so arranged that when the main rod is reciprocated the eggs contained in the vessel will be thoroughly broken up and beaten.

Claim.—The beating or agitating device consisting of the ring *a*, bars *c*, and knives *d*, all arranged and combined with the rod D passing through the cover, substantially as herein specified for the purposes described.

No. 51,759.—JONATHAN R. SUPPLEE and ROBERT K. WRIGHT, Philadelphia, Penn.—*Low Water Detector.*—December 26, 1865.—The object of this invention is to provide an instrument whereby low water in a steam generator may be automatically detected. Its novelty consists in the combination and arrangement of a valve cylinder and pipes attached to the outside of a boiler.

Claim.—The combination and arrangement of the valve C, cylinder E, pipes A F G, attached to the outside of a boiler, whereby to indicate the height of water in the boiler as herein described.

No. 51,760.—GEORGE TALCOT, New York, N. Y.—*Turbine Water Wheel.*—December 26, 1865.—To obtain a tight joint without creating friction at the junction of the wheel with the scroll, a flange is attached to the inner edge of the scroll, said flange being of such shape as to form annular boxes in which water, when the wheel is at work or in motion, is retained directly over the joins by centrifugal force generated by the rotation of the wheel.

Claim.—The annular water box D, placed over the joints formed by the junction of the periphery or rims of the wheel and the inner edges of the scroll, helix, or box in which the wheel is placed or fitted, substantially as and for the purpose herein set forth.

No. 51,761.—JOSEPH A TALPEY, Somerville, Mass.—*Scroll Sawing Machine.*—December 26, 1865.—This invention consists in attaching a strap to the lower end of the cross-head of the saw and passing over pulleys in such a manner as to allow an armed cam which extends in opposite directions from the driving shaft to operate upon the strap in such a way as that two reciprocations of the saw are had to one revolution of the shaft, thus doing away with any straining of the saw.

Claim.—The flexible strap and cam in connection with a spring or its equivalent, arranged and applied to a saw to operate substantially in the manner and for the purpose specified.

No. 51,762.—WILLIAM H. TOWERS, New York, N. Y.—*Process for Tanning.*—December 26, 1865.—This invention consists in the use of alcohol for treating hides.

Claim.—The proess of tanning or curing hides or skins in alcohol, as and for the purpose above set forth.

No. 51,763.—BENJAMIN M. VAN DER VEER, Clyde, N. Y.—*Lock.*—December 26, 1865.—This device is intended to lock the frame to which the latch bolt is secured when the latter is

in its ordinary projected state, and it consists essentially of a rectangular turn-bottom combined with a revolving, registering, or clicking disk, and a revolving tumbler, both of which latter must be operated in a particular manner by the key before the latter can reach the bottom to turn it around.

Claim.—The combination of the wheel *n* and tooth wheel *t*, with the traverse dog *g*, of a lock, arranged with regard to each other substantially in the same manner described, and operating as and for the purpose specified.

No. 51,764.—JOHN H. WAIT, Portsmouth, Ohio.—*Steam Engine Governor.*—December 26, 1865.—This invention consists of a series of toothed wheels placed upon the vertical spindle of the governor, diminishing regularly in size from the upper to the lower one of the series, and so arranged with reference to a pinion which is attached to a shaft placed in such a position that, as the pinion is moved up and down upon the shaft by the action of the belts of the governor, it will mesh with all of the wheels in the series, thus giving an inclined or diminished motion to the pinion, which motion is communicated by rods from eccentrics of different diameters, so that as the line is raised or lowered by the action of the governor, belts acting through the series of wheels above described open the valve, which is in a greater or less range of motion, and thus to cut off the steam at an earlier or later period in the stroke of the piston.

Claim.—First, the combination and arrangement of the rod *b*, movable box *c*, notched pendulous bar *d*, rods *f* and *k*, and cams *h i*, substantially as and for the purpose explained.

Second, the combination and arrangement of the governors *r r*, series of cogs *u u u*, stirrups *n*, spiral spring *o*, and rod *m*, as and for the purpose set forth.

No. 51,765.—RICHARD WALKER, Batavia, N. Y.—*Machine for Setting Spokes in Wagon Wheels.*—December 26, 1865.—This invention consists in a graduated gauge bar, at one end of which is secured a shaft that passes through the hub with a cone-shaped block next the bar, and a cone-shaped nut at the outer end of the shaft so as to centre the shaft in the hub. To the gauge bar is attached a sliding head, in which is an adjustable spindle, so that the head can be adjusted to the size of the wheel and the spindle disk.

Claim.—Making an adjustable gauge for setting the spokes and regulating the size of wheels in the manner herein described and particularly set forth, and for the purpose described.

No. 51,766.—JOSEPH WELLS, Brooklyn, N. Y.—*Flour and Sauce Sifter.*—December 26, 1865.—In this device a crank shaft passes through a socket in the cross-piece which supports it and terminates in a socket in the hub, from which radiate a series of arms carrying hinged wings. The said arms are provided with short counter arms, which serve to hold one end of the springs and to retain the hinged wings in position.

Claim.—First, the construction of the hinged wings G G G and the radial arms F F F, when the same are constructed and combined to operate substantially in the manner and for the purpose described.

Second, the combination of the radial arms F F F, hinged wings G G G, springs H H H, and wire gauze I, for the purpose specified.

No. 51,767.—SETH WHALEN, Burnt Hills, N. Y.—*Calipers.*—December 26, 1865.—This invention consists of a rule carrying two cross-heads, one of which is adjusted slightly by a nut, the other being movable along the rule, and the cross-heads on one side are adapted to the measurement of interior diameters or sizes, and on the other side to the measurement of external sizes.

Claim.—The rule *a*, in combination with the adjustable cross-heads or Γ's *b* and *d*, forming calipers for external and internal measurements as specified.

No. 51,768.—J. B. H. WHITING, Ripon, Wis.—*Seeding Machine.*—December 26, 1865.—This invention relates to a mode of hinging the teeth so that they can be set at different angles to the ground without the necessity of changing bolts, and also jointing the teeth so that the machine can be moved backward without cramping the teeth.

Claim.—First, the eccentric lever *l* sliding in slot *t* in conjunction with the standard playing through the vertical slot *s* of the beam D, substantially as described.

Second, the stop guards *n* applied to the upper sections *n* of the toothed standards, substantially in the manner and for the purposes described.

Third, the two jointed sections *n n* united to the brace rod *r* and connected to the drag bar D, substantially as described.

Fourth, the combination of the pivoted notched arms *j j*, eccentrics *k k*, rock shaft *k*, drag bars D D, and lever *k*2, substantially in the manner described.

No. 51,769.—J. H. WILHELM, Chicago, Ill.—*Air Pump.*—December 26, 1865.—A pump of ordinary construction is encased within a large air chamber, said air chamber having no bottom, but being suspended in an open vessel of water so that the water may rise high in the air chamber, and when driven back by the change of air, continue a pressure thereon and thus keeps up a continuous heat.

Claim.—The air pump *c*, contained in the elevated air chamber L and water tank A, substantially as set forth.

No. 51,770.—JOHN H. WILHELM and FREDERICK G. ENSIGN, Chicago, Ill.—*Combination Spring and Caster for Furniture.*—December 26, 1865.—This invention consists of two curvilinear springs in combination with a spiral spring connected to the shaft of a caster wheel.

Claim.—The combination of the curvilinear springs A B, adjusted to the stem D of the caster wheel E, and strengthened by the helical spring C, as set forth.

No. 51,771.—JOHN D. WILLIAMS, Alleghany, Penn.—*Manufacture of Iron.*—December 26, 1865; antedated December 14, 1865.—This invention consists in mixing with the melted iron, in an ordinary puddling furnace, a compound, consisting of sulphuric acid, water, salt, lime, and potash.

Claim.—The process herein described for puddling or boiling iron, which process consists in pouring in on melted iron an acid or saline solution prepared substantially as described, the melted iron and furnace being manipulated in the manner herein described and for the purpose set forth.

No. 51,772.—JACOB WOLF, Cleveland, Ohio.—*Baby Swing.*—December 26, 1865.—This device consists of a seat suspended on cords, above which are placed bars or cross-pieces which are separated from the seat by means of tubes, for the purpose of preventing the child occupying the seat from falling out.

Claim.—The seat C, with the tubes E E and cross-pieces D D, arranged and used as and for the purpose specified.

No. 51,773.—MCCLINTOCK YOUNG, Frederick, Md.—*Carriage Wheel Hubs.*—December 26, 1865.—This invention relates to a method of introducing and retaining oil or other fluid lubricators in the hubs of wheels, or in and upon the journals of said wheels, and also to the arrangement of a close band and nut, so that by the use of a pin from the outside the wheel may be run off without handling the nut or soiling the hands, whilst the nut remains in the hub and always in place to be run upon the journal when the wheel is to be replaced.

Claim.—First, the channel *c* in or on the journal and curved outward and upward through the collar, and furnished with a hinged stopper for the purpose of introducing, holding, and retaining a supply of oil or similar fluid lubricator, substantially as and for the purpose described.

Second, in combination with the close band D and nut E, each furnished with a hole, a pin or stud, introduced from the outside, for the purpose of forming a lock or tie between said band and nut to run the nut off from or on to the journal of the axle, substantially as herein described and represented.

No. 51,774.—ROBERT A. ADAMS, assignor to himself and EDWIN L. BROWN, Chicago, Ill.—*Apparatus for Graining Wood.*—December 26, 1865.—This invention consists in the employment of a hollow elastic air bag or drum in combination with an endless graining belt. The said elastic bag or drum is rendered capable of being inflated or collapsed to any desired extent by means of a hollow axle or valve, and the width of the bag may also be regulated by means of a packing-box axle and set screw.

Claim.—First, the hollow elastic air bag or drum, to be used in a graining machine in the manner and for the purpose substantially as above described.

Second, the combination of the said endless graining belt and elastic air bag, used and operating in the manner substantially as described.

Third, the device, substantially as described, for inflating and collapsing the hollow bag or drum by means of the hollow axle and valve.

Fourth, the device, substantially as described, for regulating the width of the hollow bag or drum by means of the packing-box axle and set screw.

No. 51,775.—WILLIAM BROWN, Morrison, Ill., assignor to M. G. and F. H. JACOBS, of the same place.—*Method of Preventing Incrustation in Steam Boilers.*—December 26, 1865.—This invention consists in filtering the water through hay contained in the compartments of a suitable vessel, the compartments being separated by a perforated partition, and supplied with waste steam from the engine.

Claim.—First, in the construction of the filter, the space left above the tops of the partitions F G and H, and the cover for the free passage of steam from the cylinder into the filtering compartments B C and D, for the purpose of heating the water, as herein set forth and described.

Second, the application of hay as filtering material to be put into compartments B C and D, for the precipitated lime to adhere to, as and for the purposes herein set forth and described.

No. 51,776.—CHARLES BUCKLEY, West Meriden, Conn., assignor to CHARLES PARKER, of the same place.—*Manufacture of Lenses for Spectacles.*—December 26, 1865.—This invention is explained by the claim.

Claim.--Forming the lenses by casting the blanks therefor in moulds which will give to the edge of the blank the exact form and finish which it is desired that the edge of the lens shall have, and finishing the lens by grinding and polishing the faces of the blank, substantially as set forth.

No. 51,777.—G. E. CLARK, Racine, Wis., assignor to himself and SYLVESTER BULLEN, of the same place.—*Animal Trap.*—December 26, 1865.—The trap is provided with a series of levers operated by a treadle or tripping platform for the purpose of making it self-setting.

Claim.—The combination of the pivoted bar H, levers *h* F K *d d*, connecting bars G E L, and doors D D, when arranged as and for the purpose specified.

No. 51,778.--HERMAN E. DAVIDSON, Gloucester, Mass., for himself and as administrator of the estate of C. H. DAVIDSON, deceased, late of Charlestown, Mass.--*Elastic Syringe.*—December 26, 1865.—This invention consists in making an elastic syringe bulb and the flexible pipes all in one piece.

Claim.—The improved elastic syringe bulb having flexible pipes made in one piece therewith.

No. 51,779.—WILLIAM FOSKET, Meriden, Conn., assignor to the MERIDEN CUTLERY COMPANY of the same place.—*Machinery for Grinding Knives.*—December 26, 1865.—This invention consists in arranging upon a cylinder matrices in which the knife blanks are clamped. The cylinder is rotated slowly and moved horizontally towards a grindstone, against which the knives bear until they have passed it, when the cylinder slides backward. As each knife comes up on the back side of the cylinder it is taken out of the matrix by the operator and turned over so that the opposite side is ground in the same manner.

Claim.—A cylinder arranged with fixed matrices revolving in the manner substantially as described, in combination with the bearings L, cam wheels K, and the projections thereon, constructed and arranged to operate substantially in the manner and for the purpose described

No. 51,780.—GEORGE GREGORY, New Haven, Conn., assignor to LAWRENCE, BRADLEY & PARDEE, New York, N. Y.—*Turnout Wagon Seats.*—December 26, 1865.—This invention consists in constructing a seat that can be so folded as to occupy a very small space, within the box or rear part of a wagon, and when the same is turned out and unfolded will equal in capacity the stationary front seat.

Claim.—The above described construction and arrangement of a turnout seat, for wagons or other vehicles, substantially as and for the purpose set forth.

No. 51,781.—W. W. WAITE, South Natick, Mass., assignor to FLAX LEATHER MANUFACTURING COMPANY, Boston, Mass.—December 26, 1865.—This invention consists in bringing scraps of buckskin, sheepskin, or other untanned hides, to the state of pulp, and adding thereto oakum or other vegetable fibre. The pulp is then formed into a web in the ordinary manner.

Claim.—As a new article of manufacture, an artificial leather, made of animal and vegetable material combined, substantially as set forth.

No. 51,782.—GEORGE W. BOWLSBY, Monroe, Mich.—*Postage Stamps, &c.*—December 26, 1865.—This invention consists in applying the adhesive substance to only a portion of the under surface of the stamp, so that when the stamp is attached to the letter, or other mailable matter, it will leave the remaining portion, which is not made adhesive, projecting, that is, not adhering to the letter. The projection is to be torn off by the postmaster before the letter is mailed.

Claim.—The destruction of the postage stamp, by tearing a portion of it by the postmaster before it enters the mails.

Also, the preparation of the stamp, in the manner substantially as described, so that this may be done.

No. 51,783.—ARTHUR CLARK, Philadelphia, Penn.—*Portable Hog Scalder.*—December 26, 1865.—This invention consists of a boiler and table attached, with a furnace underneath the table, which by folding forms a lid to the boiler. A roller is placed at the junction of the boiler and table, for the purpose of rolling the hog upon the table. Folding legs are attached to the table, for support when in use.

Claim.—First, the combination of the table C and roller D with the boiler B, arranged and operating substantially as set forth.

Second, the furnace A, boiler B, and table C, in combination, when the latter can be raised as a cover for the boiler as well as a table, substantially as set forth.

EXTENSIONS.

ALEXANDER SMITH, West Farms, N. Y.—*Two and Three Ply Carpets.*—Patented December 10, 1850; extended December 10, 1864.

Claim.—In the weaving of two or three ply ingrain carpets, the employment of parti-colored warp and weft, operated by the jacquard or other mechanical means to form the figure, when the same colors in the warp and in the weft are caused to combine together to form the same colored figure in the fabric, substantially as described.

LEWIS C. ENGLAND, Williamsburg, N. Y.—*Vat for Tanning Hides.*—Patented December 24, 1850; extended December 17, 1864.

Claim.—The slats, as described, in combination with the vat and the handler, substantially in the manner and for the purposes herein set forth.

STANHOPE W. MARSTON, New York, N. Y.—*Trigger-operating Revolving Fire-arm.*—Patented January 7, 1851; reissued August 21, 1860; extended January 7, 1865.

Claim.—First, so construcing the lock of revolving-breech fire-arms which may be operated by trigger, as that the hammer, when raised to full cock, preparatory to firing, may be retained in that position of unstable equilibrium until the piece is fixed on a further pressure of the trigger, by means of a vibrating tooth or fly tumbler, independently of any dog, pawl, catch, or other mechanical device for that purpose.

Second, so constructing and arranging the lock of revolving-breech fire-arms susceptible of operation by trigger, as that when the hammer is raised to cock, preparatory to firing, the trigger shall be held back or retained in a drawn position, by means of a vibrating tooth or fly tumbler.

Third, the use, in revolving-breech fire-arms, of a vibrating tooth or fly tumbler, interposed between the hammer and trigger, and operating substantially as hereinbefore described, by an upward pressure on the hammer, so as gradually to increase the leverage, and consequently the power applied to raise the hammer, and thereby reduce the effective resistance of the mainspring, for the purpose of securing steadiness of aim and greater ease in firing, and also allow the recovery of the trigger after firing, for repeated action.

PHILO S. BEERS, Harnden, Conn.—*Machine for Turning Irregular Form.*—Patented February 18, 1851; extended February 11, 1865.

Claim.—First, the three cutter cylinders A B C, with cutters arranged as within described, in combination with the sliding frame, compound cams and cam rails, constructed and arranged substantially in the manner and for the purpose herein described.

Second, the combination of the compound cams and cam rails, with the sliding frame and devices within described, for holding and revolving the timber material, whereby such vertical motion is produced in the latter, while being subjected to the action of revolving or vibrating cutters, as to reduce the timber to the required form.

NEWELL WYLLYS, South Glastenbury, Conn.—*Drawing Regulator for Spinning Machine.*—Patented January 28, 1851; reissued July 12, 1864; extended January 20, 1865.

Claim.—The combination of the escapement mechanism, or its mechanical equivalent, with the trumpet M, the counter weight W, or its equivalent, and mechanism, substantially as described, for revolving the screw *e* of the belt shipper, and of the mechanisms by which the sets of drawing rollers are revolved, the said escapement mechanism being connected with the trumpet and applied to the gear *s*, and consisting of the disk *t*, the pawls *a b*, and the lever *y*, and its operative mechanism, substantially as hereinbefore explained.

Also, the arrangement of the trumpet arm E, as herein described, in combination with the system of weighted levers, the escapement, the belt-shifting mechanism, the reversed cone pulleys, and the mechanism operated by them, whereby the force required to move the trumpet is made to vary under different circumstances to sufficient extent to prevent over sensitiveness in the mechanism, which changes the relative speed of the drawing rolls to inequalities in the slivers, while, at the same time, but little force is required to effect such changes, thus proportioning the draw more nearly than heretofore to the quantity of fibre in the sliver, and thereby rendering the latter of more uniform diameter and density.

HENRY BUTTON, Coburg, C. W.—*Ventilating.*—Patented January 31, 1851; extended January 21, 1865.

Claim.—The arrangement and mode of operating the valves A A in reference to the air-heating space around the stove, by which the amount of air from within and without is graduated by a single movement.

Also, the arrangement of the horizontal air-heating trunk, the vertical D leading thereto, and its valve S, in combination with the air-heating space G.

W. O. GROVER and WM. E. BAKER, Boston, Mass.—*Sewing Machine.*—Patented February 11, 1851; reissued December 3, 1861; extended February 10, 1865.

Claim.—First, in combination, first, an eye-pointed needle, which descends and carries its thread through the material supported on a table; second, a table, which supports the material horizontally below the needle and above the thread-carrier; third, a thread-carrier below the table, carrying a thread, which is not passed through the material, operating together substantially as set forth.

Second, in combination, first, a horizontal table or support; second, a feeding apparatus; third, a stitching apparatus; each having the distinguishing characteristics hereinbefore specified, and operating substantially as set forth, to make the double-looped seam herein described.

J. STUART GWYNNE, New York, N. Y.—*Rotary Pump.*—Patented January 14, 1851; extended January 13, 1865.

Claim.—Thus extending said pipe, when the collar on the opposite side is made adjustable, and the parts so arranged that the joints of the piston case with said pipe and collar may be tightened as they wear, by tightening the adjustable collar only as described, the piston and case, and the suction pipe, being constructed substantially as described.

THOMAS J. SLOAN, New York, N. Y.—*Machine for Arranging and Feeding Machine Blanks.*—Patented February 25, 1851; reissued March 29, 1853; extended February 25, 1865.

Claim.—The lifters which select and lift the blanks, &c., from the hopper, substantially as specified, in combination with ways or conductors, or the equivalents thereof, substantially as specified, into or on to which the blanks, &c., are transferred, as specified.

Also, giving to the lifters or to the inclined ways, or their equivalents, a lateral motion, in combination with a stop or detector, substantially as specified, for the purpose of arresting the operation of the lifters until a further supply is required, as specified.

Also, finally, the sliding carrier, with its recess, for receiving and holding the screw blanks, substantially as specified, in combination with the spring fingers, substantially as specified, for taking the screw blanks from the carrier and presenting them to the jaws, as specified.

JUNIUS JUDSON, Rochester, N. Y.—*Steam Engine Governor.*—Patented March 4, 1851; reissued February 28, 1865; extended March 3, 1865.

Claim.—Communicating the action of a governor to its valve or valves, gate, or equivalent regulating device, in such manner that when the speed of the engine or motor becomes low, either from increase of resistance to overcome, or from diminution of pressure of the motive power, the said valve or equivalent will be accelerated or caused to move through a comparatively large space, to uncover or cover a comparatively large area of the valve or gate opening, so as to add to or take from the engine or motor, by a given change of its speed, comparatively large amounts of power; and also, when the speed becomes high, either from diminution of resistance to overcome, or from increase of pressure of the motive power, the said valve or equivalent will be, by a like change of speed, retarded or caused to move through a comparatively small space to uncover or cover a comparatively small area of valve opening, so as to add to or take from the engine or motor comparatively small amounts of power, for the purpose of securing, as nearly as may be, uniform speed of the engine or motor, under all variations of the power or resistance, substantially as herein set forth.

JOSEPH W. FOWLE, Boston, Mass.—*Drilling Machine.*—Patented March 11, 1851; extended March 6, 1865.

Claim.—The combination of a direct-action steam drill, in which both engine and drill are mounted on a frame, which slides in a swinging frame capable of being adjusted in any required position, with the apparatus substantially as herein above described, which is connected with and actuated by the cross-head of the engine, for causing the sliding frame to move along the swinging frame toward the rock.

J. C. DICKEY, Saratoga Springs, N. Y.—*Revolving Frame for Drying Fruit and other Articles.*—Patented June 3, 1851.

Claim.—The centre E, with three or more arms to support a cord, netting, or other cloth, for the purpose of exposing cloths, clothes, glue, fruits, seeds, &c., with facility to be dried; so constructed that the arms may be raised up and brought together to expedite the collection of the articles dried, and so that it may be conveniently removed when not in use, substantially as described.

HENRY B. GOODYEAR, New Haven, Conn., administrator of the estate of NELSON GOODYEAR, deceased.—*Manufacture of India-rubber.*—Patented May 6, 1851; reissued (No. 557) May 18, 1858; extended May 5, 1865.

Claim.—The new manufacture or substance herein above described and composed of India-rubber, or other vulcanizable gum, and sulphur, in the proportions substantially such as

described, and, when incorporated, subjected to a high degree of heat, as set forth; and this whether other ingredients be or be not used in the preparation of said manufacture, as herein described.

EDWARD HAMILTON, Chicago, Ill., assignor to NELSON GOODYEAR, deceased.—*Mode of Preventing the Entrance of Dust, &c., into Railroad Cars.*—Patented May 27, 1851; reissued February 15, 1853; extended May 8, 1865.

Claim.—Inducing outward currents of air through the windows of railroad cars to prevent the entrance of dust, &c., by the action of the surrounding air on deflectors combined with the sides of the car, substantially as specified, and operating on the principle set forth.

An act for the relief of the heirs of SALMON D. FISH, deceased.—*Coffin.*—Approved February 17, 1865; patented November 14, 1848; reissued March 6, 1860.

Claim.—First, the manufacture of coffins of cast or raised metal, when made substantially in the form and manner above described; that is to say, corresponding nearly with the human form, and making the coffin in two nearly equal parts or shells united by a flanch, substantially as set forth.

Second, the manufacture of coffins of raised or cast metal, in two shells each, formed with recesses of greater or less depth, which shall respectively constitute a portion of the receptacle of the corpse, thus approximating the coffin more nearly in shape to that of the human body than could otherwise be done.

SILAS S. PUTNAM, Dorchester, Mass.—*Window Curtain Fixtures.*—Patented April 15, 1851; reissued March 31, 1857; extended March 28, 1865.

Claim.—Attaching the curtain to its roll by a piece or strip, which fits into a groove in the roll, and is secured thereto by caps at the ends, in the manner substantially as herein set forth.

IRA L. CADY, New York, N. Y.—*Compound Metallic Door for Vaults, Safes, &c.*—Patented April 29, 1851; extended April 29, 1865.

Claim.—A door or wall for a vault or safe, made by securing to each other at a certain distance apart two plates of sheet metal, provided with a rim or curb, and filling the vacant space between them with immalleable cast iron poured in while melted, substantially in the manner herein described.

RICHARD E. SCHROEDER, Rochester, N. Y.—*Limekiln.*—Patented May 6, 1851.

Claim.—The flues *d d*, encircling the cupola, and provided with apertures or flues *e e e e e* for admitting the heat and flame to the action upon the limestone from various points, substantially as described, in combination with the air chamber *k*, encircling the cupola, as described.

Also, the aperture *p* and passage therefrom, for saving the heat arising from the manufactured lime while being removed, all operating conjointly in the manner and for the purpose herein fully set forth.

HENRY B. GOODYEAR, New Haven, Conn., administrator of NELSON GOODYEAR, deceased.—*Manufacture of India-rubber.*—Patented May 6, 1851; reissued (No. 556) May 18, 1858; extended May 5, 1865.

Claim.—The combining of sulphur and India-rubber, or other vulcanized gum, in proportions substantially as specified, when the same is subjected to a high degree of heat, substantially as specified, according to the vulcanizing process of Charles Goodyear, for the purpose of producing a substance or manufacture possessing the properties or qualities substantially such as described; and this whether the said compound of sulphur and gum be or be not mixed with the other ingredients, as set forth.

WILLIAM P. UPLINGER, Philadelphia, Penn.—*Design for a School Desk.*—Patented October 8, 1861; extended March 20, 1865.

Claim.—The ornamental configuration of the cast-iron uprights B, constituting, in combination with a table C, back D, and seat A, a new and original design for a school desk, as above set forth and represented in the annexed drawing.

HUGH and JAMES SANGSTER, Buffalo, N. Y.—*Lanterns.*—Patented June 10, 1851; reissued August 21, 1855; extended June 8, 1865.

Claim.—Constructing and arranging the spring catches I, in the manner described or its equivalent, to cause the attachment of the lamp to the lantern by the operation of pressing the lantern down upon the spring catches.

Also, arranging the thumb pieces L, within the flange G, at the base of the lamp by extending the springs I towards each other horizontally, as described, and thus forming the elbow catch to rest against the shoulder of the flange E of the lantern, in the manner and for the purposes specified.

W. O. HICKOK, Harrisburg, Penn.—*Regulators for the Pen Beam in Ruling Machines.*—Patented June 17, 1851; extended June 14, 1865.

Claim.—First, the pieces G H A B, in combination with the hinge-joints 1 2 3, arranged and combined substantially and for the purpose as herein described.

Second, the sliding piece B, the bearings C C C, and the finger wheel F, in combination with the pieces G H A, uniting by hinge-joints, or in any other manner substantially the same; using in the construction of the whole machine any material adapted to the purpose of forming, as herein described, a pen beam regulator for ruling machines.

HENRY MOESER, Pittsburg, Penn.—*Printing Names of Subscribers upon Newspapers, &c.*—Patented June 24, 1851; extended June 14, 1865.

Claim.—The arrangement and construction of a machine for printing the names of persons or places on newspapers and other papers after the manner substantially as described, viz., of a form containing the column of names to be printed, set up in types, and being brought under the action of a stamp by means of a slide, moving by degrees; together with the application of a slitted plate allowing the paper to be printed to be pressed down on the line right beneath the slit of the plate, and shielding the paper from the lines adjoining that under action of the stamp, as hereinbefore described.

LAWRENCE MYERS, Philadelphia, Penn.—*Railroad Car.*—Patented June 24, 1851; reissued March 21, 1865; extended June 16, 1865.

Claim.—First, the combination, substantially as described, of a hollow vessel with flanged wheels or tires adapted to the rails of a railroad for the purpose specified.

Second, one or more partitions combined with the said hollow vessel, substantially as and for the purpose specified.

JOHN CRUM, Ramapo, N. Y.—*Machinery for Cutting Files.*—Patented July 1, 1851; extended June 24, 1865.

Claim.—Connecting the file blank to be cut with a bed, which has a positive feed motion, substantially as described, in combination with an incidental rolling motion depending upon the shape of the blank and the angle which the cutter forms therewith, substantially as described.

Also, connecting the chisel with its stock by a joint, as described, in combination with a rolling bed, as described, by which they are rendered self-adapting, as described.

Also, holding the file down on to the bed during the operation of cutting, by means of a roller or its equivalent, combined with the rolling bed, substantially as herein described; but this I only claim when the end of the file is so connected with its bed that it shall be free to move up and down that the pressure of the roller may keep that part of the file that is being cut firmly down on to the bed, as herein specified.

RICHARD DUDGEON, New York, N. Y.—*Portable Hydraulic Press.*—Patented July 8, 1851; extended June 23, 1865.

Claim.—A hydraulic press, quite portable, in which the ram is hollow, and serves as the reservoir to supply the cylinder with water or other liquid, while the force pump and its appendages are contained within the ram, so that by working this force pump the arm is forced up until the liquid in such ram is exhausted, and by moving the handle of the pump down it will come in contact with a rod attached to a valve in the pump piston, and the latter comes in contact with a valve in the end of the ram, opening them both, and allowing the water to return into the ram again through passages.

AARON PALMER, Brockport, N. Y., and STEPHEN G. WILLIAMS, Janesville, Wis.—*Harvester.*—Patented July 1, 1851; reissued April 10, 1865; again reissued January 1, 1861; extended June 29, 1865.

Claim.—Discharging the cut grain from a quadrant-shaped platform, on which it falls as it is cut, by means of an automatic sweep rake, sweeping over the same, substantially as described.

AARON PALMER, Brockport, N. Y., and STEPHEN G. WILLIAMS, Janesville, Wis.—*Harvester.*—Patented July 1, 1851; reissued January 1, 1861; again reissued May 31, 1864; extended June 29, 1865.

Claim.—The combination of the cutting apparatus of a harvesting machine with a quadrant-shaped platform arranged in the rear thereof, and a sweep rake operated by mechanism in such manner that its teeth are caused to sweep over the platform in curves when acting on the grain; these parts being and operating substantially as hereinbefore set forth.

Also, the combination of a quadrant-shaped platform, a sweep rake operated by mechanism which causes the rake to move in alternately opposite directions, an inclined rail to raise the rake, and a switch; these parts being and operating substantially as hereinbefore set forth.

FREDERICK P. DIMPFEL, Philadelphia, Penn.—*Steam Engine.*—Patented July 1, 1851; reissued February 21, 1865; extended July 1, 1865.

Claim.—First, the means herein described for connecting the steam piston of a steam

engine with the crank thereof, said means consisting of a piston rod, fixed cross head, side bars, forked connecting rod and belts, or the equivalents thereof, the several devices being arranged and operating substantially as herein set forth, in such manner that the cross piece of the connecting rod which is placed transversely to the crank shaft shall be on opposite sides of the axial line of said shaft, at opposite extremities of the stroke of the piston.

Second, the forming of the eduction and induction chambers in cylinder heads of steam engines, and furnishing them respectively with supply and exhaust valves, substantially in the manner and for the purposes described.

Third, the forming of two steam chambers in one or both heads of a steam engine cylinder, in combination with induction and eduction steam pipes, and with puppet or other valves, in such manner as that a large portion of the steam shall be saved which is lost or wasted in the nozzles of steam ways of engines, as ordinarily constructed, substantially as described.

Fourth, the removable chambered cylinder head, in combination with the extension chambers *u u*, and steam pipes *r r*, connected to the latter, substantially as and for the purposes described.

Fifth, the manner substantially as described, of applying the induction and eduction valves with their respective chambers to steam cylinders, for the purpose set forth.

WILLIAM H. SEYMOUR, Brockport, N. Y.—*Reaping Machine.*—Patented July 8, 1851; reissued (A) May 31, 1864; extended July 3, 1865.

Claim.—First, the combination in a harvesting machine of the cutting apparatus, to sever the stalks, with a reel and with a quadrant-shaped platform located in the rear of the cutting apparatus; these three members being and operating substantially as set forth.

Second, The combination in a harvesting machine of the cutting apparatus, with a quadrant-shaped platform in the rear of the cutting apparatus, a sweep-rake mechanism for operating the same, and devices for preventing the rise of the rake teeth when operating on the grain, these five members being and operating substantially as set forth.

WILLIAM H. SEYMOUR, Brockport, N. Y.—*Reaping Machine.*—Patented July 8, 1851; reissued (B) July 10, 1860; extended July 3, 1865.

Claim.—The combination of the arm, rod, or lever, which carries a vibrating sweep-rake, with a guide rod, which forms a movable fulcrum for the rake head, substantially as described, for the purpose set forth.

WILLIAM H. SEYMOUR, Brockport, N. Y.—*Reaping Machine.*—Patented July 8, 1851; reissued July 10, 1860; again reissued (C) May 7, 1861; extended July 3, 1865.

Claim.—A quadrant-shaped platform, arranged relatively to the cutting apparatus, substantially as herein described, forthe purpose set forth.

ULYSSES PRATT, Deep River, Conn.—*Process for Bleaching Ivory.*—Patented January 6, 1852; antedated July 6, 1851; extended July 4, 1865.

Claim.—The improvement in the process of bleaching ivory, as set forth in the specifications—*i. e.*, the raising up of one edge of the piece of ivory above the plane of the frame which supports it, and sustaining it in its place, in the manner described.

LEWIS LILLIE, Troy, N. Y.—*Fire-proof Safe.*—Patented July 15, 1851; extended July 11, 1865.

Claim.—The combination of wrought and cast iron, the same forming a safe, in the manner and for the purpose substantially the same as described.

J. M. BOTTUM, New York, N. Y.—*Securing Pinions, &c., of Watches in Lathes.*—Patented July 15, 1851; reissued July 8, 1856; extended July 12, 1865.

Claim.—The employment of adhesive cement for screwing staffs and pinions of watches, and like articles of small dimensions, for lathe operation, in combination with a chuck A, having a female centre *a* therein, either with or without the tube B, or its equivalent, as described and set forth, or any device, substantially the same.

GEORGE P. GORDON, Brooklyn, N. Y.—*Printing Press.*—Patented August 5, 1851; reissued July 31, 1860, (No. 1,021;) extended July 20, 1865.

Claim.—First, a bed vibrating to and from the impression, in combination with a rocking platen, rocking to and from the impression, for the purposes herein set forth, substantially as described.

Second, rocking the inking roller arms or frame upon a centre, so that the inking rollers may pass and repass over the form of types for each and every impression, whether said rocking frame be constructed in the precise manner described, or in some equivalent way, to produce a like result.

Third, the bearers, or their equivalents, in combination with the rocking inking roller arms or frame, for the purpose of passing and repassing the inking rollers over the type or form in a line parallel with the face of the type, when each working roller frame shall carry the inking rollers forward and backward over the type for each and every impression.

Fourth, vibrating the bed from the point of its receiving the inking rollers to the point of impression, as described.

Fifth, the rocking inking roller arms or frame, in combination with a vibrating bed, substantially as herein specified.

Sixth, constructing a printing press with a rocking platen, so that the pressman, while feeding and driving the press, may stand directly in front of said press for such purpose, and be enabled, without changing his position, to see the face of such rocking platen as it rocks or turns toward him for the reception of the sheet to be printed; the face of the type or form as it moves to or from the impression; the ink-distributing cylinder or its equivalent, from its being placed at the top of the press; and the inking rollers when inking the type or form—thereby enabling the pressman to detect any imperfection in the working of these parts of the press—all substantially as herein set forth.

GEORGE P. GORDON, Brooklyn, N. Y.—*Printing Press.*—Patented August 5, 1851; reissued July 31, 1860, (No,1,022;) extended July 20, 1865.

Claim.—First, supporting upon a centre or centres a platen which shall rock or turn between the point necessary for the reception of the impression and the point necessary for the reception of the sheet to be printed, when the face of such working platen shall stand out of a horizontal position, or at an angle from a horizontal position at the time the impression is given, substantially as herein set forth and for the purposes described, whether the same be accomplished in the precise manner specified or in some equivalent way.

Second, the frisket grippers, or their equivalents, for relieving the sheet from the type, in combination with a rocking platen.

Third, giving a rocking platen, when receiving the sheet to be printed or when receiving the impression, a period of rest during the continued motions of other parts of the press.

ALLEN B. WILSON, Waterbury, Conn.—*Process of Forming Stitches by Machinery.*—Patented August 12, 1851; reissued February 28, 1860, (No. 913;) extended July 24, 1865.

Claim.—First, in combination with an eye-pointed needle carrying one thread, a hook properly shaped and moved, and a bobbin supporting and giving off a lower thread, the combination as a whole being substantially such as specified, and acting to make stitches under the mode of operation, substantially as hereinbefore described.

Second, the combination of a hook so shaped and moved as to spread a loop sufficiently to surround a bobbin with a bobbin acting as specified, the combination being substantially such as recited hereinbefore, and acting so that a loop is seized, spread, and released with a bobbin thread inclosed in it, and then drawn up tight by the hook.

Third, a revolving hook so shaped as to operate substantially in the manner specified on the loops of needle thread.

Fourth, a hook so shaped and moved as to spread a loop substantially in the manner set forth, in combination with an eye-pointed needle actuated by an eccentric or equivalent motion.

Fifth, feeding the material to be sewed step by step by an instrument operating and constructed substantially as described, for the purposes specified, in conjunction with a presser foot or surface governed by a yielding force, such as described.

Sixth, a spring or yielding clamping surface, when combined with another surface so as to grasp cloth between them, and also with a feeding instrument which is out of contact with the cloth when it is thus clamped, the operation being such that the cloth remains clamped, substantially in the manner and for the purposes specified, while the feeding instrument is out of contact or engagement with the cloth.

Seventh, arranging a hook that operates substantially in the manner specified in such relative position to a table for supporting cloth and to an eye-pointed needle that the former shall extend loops of needle thread in planes perpendicular, or nearly so, to the plane of the cloth or material to be sewed, substantially as specified.

And, lastly, a horizontal shaft arranged beneath the platform or table of the machine, by which are actuated the needle, the hook, and the feeding instrument, in combination with a hook which moves in a vertical plane, or nearly so, the combination being substantially such as described.

ALLEN B. WILSON, Waterbury, Conn.—*Process of Forming Stitches by Machinery.*—Patented August 12, 1851; reissued February 28, 1860, (No. 914;) extended July 24, 1865.

Claim.—First, that there are at certain periods in the formation of the seam, two loops of needle thread below the cloth at the same time, one being extended and the other drawn up, substantially in the manner and for the purpose specified; and

Second, that the stitches are tightened or drawn up by the extension of the next succeeding loop, as distinguished from a drawing up of the stitch by the motion of the needle or needle bar.

MARY MANNY, Rockport, Ill., executrix of J. H. MANNY, deceased.—*Arrangement of Joints for Attaching Trucks to Harvester Frames.*—Patented September 23, 1851; reissued January 2, 1855, (No. 287;) extended September 22, 1865.

Claim.—The arrangement of a flexible joint in the line of the cutter, or thereabouts, in such manner that the machine will bend freely up and down along this line, to keep the cutter as nearly as may be at a uniform height from the surface of smooth or undulating ground.

MARY MANNY, Rockford, Ill., executrix of J. H. MANNY, deceased.—*Arrangement for Controlling Harvester Cutter.*—Patented September 23, 1851; reissued January 2, 1855, No. (288;) extended September 22, 1865.

Claim.—Controlling the flexure of the machine, hinged so that it will bend in the line of the front edge of the cutting apparatus, or thereabouts, by means of an adjustable stop and arm, or their equivalent, in such manner that the cutter will be kept at the proper elevation on smooth ground, will be free to rise and fall, to conform to a gently undulating surface, and will be restrained from descending into furrows or other sudden and narrow depressions, while it will be free to rise to any extent required, for passing over boulders, stumps, or other like protuberances in its path, substantially as specified.

WILLIAM KENYON, Steubenville, Ohio.—*Machine for Nuts, Washers, &c.*—Patented October 14, 1851; reissued March 18, 1856; again reissued February 15, 1859; extended September 27, 1865.

Claim.—Making nuts for bolts by subjecting the blank of which the nut is to be formed, at a welding heat, to compression between swages or dies in a close die box or matrix, and punching the eye of the nut during the continuance of such pressure, for the purpose of welding up any imperfections in the iron, and giving a symmetrical shape and smooth finish to the nut, and of preventing any injury to the nut which it might suffer by the passage of the punch through it, if it were not thus sustained by the sides of the die box, and forcibly compressed between the dies.

Second, the use of a die box, closed at the sides, for surrounding the nut, and sustaining its sides while it is subjected to pressure, substantially in the manner hereinbefore described.

Third, the combination of the compressing dies P and T with the die box M, for the purpose of compressing the nut while it is sustained at the sides, and thus welding up any imperfections in the iron, and compacting its fibre, so as to give strength as well as exterior finish and symmetry to the nut.

Fourth, The combination of the punch L with the die box M and compressing dies P and T, for the purpose of compressing, confining, and restraining the opposite faces of the nut during the passage of the nut through it, and thus preventing any injury to the nut during the process of punching, and also for the purpose of insuring the making of the bore of the nut in the proper relative position to its upper and lower surfaces.

Fifth, the combination of the die box M, the compressing dies T and P, and punch L. constructed and arranged substantially as hereinbefore described, for the purpose of making hot-pressed nuts at a single operation, by severing a blank from a bar of heated metal, compressing it into shape, and punching a hole or eye through it while under compression, and delivering the finished nut from the machine.

Sixth, arranging the compressing dies in relation to the punch, and regulating their relative motion in such manner substantially as hereinbefore described. that any excess of iron in the blank shall be forced into the path of the punch in the compressing dies, thus securing the compression of the nut without risk of damage to the machine.

WILLIAM H. AKINS, Dryden, N. Y., and JACOB D. FELTHOUSEN, Michigan City, Ind.—*Sewing Machine.*—Patented August 5, 1851; reissued April 11, 1865; extended July 29, 1865.

Claim.—First, the combination of a needle bar of a sewing machine with a spring to draw up the needle after the stitch is formed, for the purpose of tightening the stitches, substantially as set forth.

Second, the combination of the stitch-forming mechanism and spool spindle with an intermittent thread-gripping mechanism located between the spool spindle and the place where the stitch is formed, substantially as set forth.

Third, the combination of the needle bar and shuttle driver of a sewing machine with mechanism for operating them in such manner that the shuttle is caused to enter between the needle and its thread while the needle is arrested, after having made a short retrograde movement.

Fourth, the combination in a sewing machine of a stitch-forming mechanism with a cylindrical rest, for the purpose of supporting articles of curved or tubular form, substantially as set forth.

Fifth, the combination of a toothed feeding instrument with reversible driving mechanism, substantially as set forth.

ISAAC M. SINGER, Yonkers, N. Y.—*Sewing Machine.*—Patented August 12, 1851; reissued October 3, 1854; extended August 7, 1865.

Claim.—Giving to the shuttle an additional forward movement after it has been stopped to close the loop, as described, for the purpose of drawing the stitch tight, when such an additional movement is given at and in combination with the feed motion of the cloth in the

reverse direction, and the final upward motion of the needle, as described, so that the two threads shall be drawn tight at the same time, as described.

Also, controlling the thread by what I have termed the friction pad between the seam and the bobbin, or any equivalent therefor, substantially as described, and for any or all the purposes specified.

Also, placing the bobbin from which the needle is supplied with thread on an adjustable arm, attached to the frame, substantially as described, when this is combined with the carrying of the said thread through an eye or guide attached to and moving with the needle carrier, as described, or the equivalent therefor, whereby any desired length of thread can be given for the formation of the loop, without varying the range of motion of the needle, as described.

Also, in a sewing machine, feeding the cloth or other substance to determine the space between the stitches by the friction of the surface of the periphery of the feed wheel, or any equivalent feeding surface, substantially as specified, in combination with a spring pressure plate or pad, which gripes the cloth or other substance against such feeding surface, substantially as specified and for the purpose set forth.

JOHN MCADAMS, Brooklyn, N. Y.—*Machine for Numbering the Pages of Account Books.*—Patented August 12, 1851; reissued January 26, 1858; extended August 11, 1865.

Claim.—The mode of arranging and operating the numeral types for printing the pages of the whole book, substantially as herein described, to wit, arranging the types of the several numbers from 1 to the highest number required in a serial order, in one or more continuous lines one behind another, and bringing them up successively and separately to the point of impression, so that the type of each number is independent of all others, and used alone and but once in the paging of the whole book, and all others are out of the way, and this, whether said types are fixed in a chain or chains, or in any other manner by which the same system of operation is obtained.

Also, arranging two type chains or continuous lines of type parallel with each other at a proper distance apart, and with the types in proper serial order, and operating the same simultaneously, substantially as described, to print the numbers of two pages simultaneously on two opposite corners of the same side of the sheet.

Also, the arrangement of two pairs of type chains or continuous lines of type, substantially as described, to print the numbers of two pages on each side of a sheet while the sheet is passing once through the machine.

ROBERT CRICHTON and JAMES REES, Pittsburg, Penn., executors of HENRY CARTER, deceased, and JAMES REES.—*Nut and Washer Machine.*—Patented August 26, 1851; reissued June 19, 1855; extended August 14, 1865.

Claim.—The machine, substantially as herein described, for making nuts by cutting the blank from a heated bar of iron, punching its eye in a closed die box, pressing it into shape while in the die box and on the punch, and then discharging it, as specified.

GEORGE W. OTIS, Lynn, Mass.—*Insulator for Lightning Rods.*—Patented August 26, 1851; extended August 25, 1865.

Claim.—The insulated support and point for lightning rods, consisting of the insulated point and opening in its shank, the insulating cylinder of glass with its lip, or flange, and the wooden collar for securing the whole to the building, all as described.

HUBBARD HARRIS, Ensfield, N. H., administrator of ALPHA RICHARDSON, deceased.—*Leather-splitting Machine.*—Patented September 16, 1851; extended September 15, 1865.

Claim.—First, making the gauge roller of a leather-splitting machine with the sectional tubes or friction rollers to be placed on each end thereof, substantially as hereinabove set forth, and for the purpose specified.

Second, combining with the ordinary cast-iron spring plate of a leather-splitting machine, a cast-steel spring plate, forming a double-lip spring plate, and fitted thereon so as to be adjustable horizontally, as hereinabove set forth, and so that the front edge of the lower or cast-iron plate may project under the edge of the knife and hold up the split, as hereinabove set forth.

MARY MANNY, Rockford, Ill., executrix of JOHN H. MANNY, deceased.—*Mowing Machine and Harvester.*—Patented September 23, 1851; reissued January 2, 1855, (No. 286;) extended September 22, 1865.

Claim.—The combination of the bar that supports the cutter with a diagonal lever held down at its inner end, substantially as described, and resting upon the axle of the carriage, as a fulcrum, or upon some other equivalent support that will perform the function of a fulcrum, whereby the outer end of the cutter bar is held up, substantially as herein set forth.

DESIGNS.

No. 2,018.—EDWARD J. KUNTZE, New York, N. Y.—*Statuette.*—January 17, 1865.

No. 2,019 to 2,023.—ELEMIR J. NEY, assignor to the LOWELL MANUFACTURING COMPANY, Lowell, Mass.—*Carpet Patterns*, (*six cases.*)—January 17, 1865.

No. 2,024.—JOHN ROGERS, New York, N. Y.—*Group of Statuary.*—January 17, 1865.

No. 2,025 to 2,026.—ELEMIR J. NEY assignor to the LOWELL MANUFACTURING COMPANY, Lowell, Mass.—*Carpet Patterns*, (*two cases.*)—January 24, 1865.

No. 2,027.—GEORGE A. HICKCOX, Brooklyn, N. Y.—*Revolving Hand Pistol.*—January 31, 1865.

No. 2,028.—ERASTUS BLAKESLEE, New Haven, Conn.—*Military Belt Hook.*—February 7, 1865.

No. 2,029.—MICHAEL F. RYAN, New York, N. Y.—*Badge or Breast Pin.*—February 7, 1865.

No. 2,030.—STEPHEN S. WINCHESTER, assignor to E. A. & W. WINCHESTER, Boston, Mass.—*Trade Mark.*—February 7, 1865.

No. 2,031.—F. H. STICKNEY, East Cambridge, Mass.—*Burial Case.*—February 14, 1865.

No. 2,032.—MERRITT PECKHAM, Utica, N. Y.—*Agricultural Furnace.*—February 21, 1865.

No. 2,033.—JULIUS L. D. SULLIVAN, Somerville, Mass.—*Spoon and Fork Handle.*—February 21, 1865.

No. 2,034.—LEWIS RATHBONE, Albany, N. Y.—*Plates of a Cook Stove.*—February 28, 1865.

No. 2,035.—LEWIS RATHBONE, Albany, N. Y.—*Plates of a Cook Stove.*—February 28, 1865.

No. 2,036.—WILLIAM W. STEPHENS, assignor to NATHANIEL P. RICHARDSON & Co., Portland, Me.—*Plates of a Cook Stove.*—February 28, 1865.

No. 2,037.—ISAAC DE ZOUCHE, Cincinnati, Ohio, assignor to BRIDGE, BEACH & Co., St. Louis, Mo.—*Stove Ornament.*—March 7, 1865.

No. 2,038.—BURTON MALLORY, New Haven, Conn.—*Door Lock.*—March 7, 1865.

No. 2,039.—LOUIS SEITZ, assignor to JAMES TAFT, New York, N. Y.—*Trade Mark.*—March 24, 1865.

No. 2,040.—LINDSAY J. HOWE and JOHN V. BOUVIER, New York, N. Y.—*Standard of Bullion Scale.*—March 28, 1865.

No. 2,041.—GEORGE Q. PRAGNELL, New York, N. Y.—*Show Case.*—April 4, 1865.

No. 2,042.—CALEB CADWELL, Waukegan, Ill.—*Sewing Machine.*—April 11, 1865.

No. 2,043.—STUART GWYNN, New York, N. Y.—*Trade Mark.*—April 11, 1865.

No. 2,044.—G. S. LOVELL, Philadelphia, Penn.—*Clock Front.*—April 11, 1865.

No. 2,045.—G. S. LOVELL, Philadelphia, Penn.—*Clock Front.*—April 11, 1866.

No. 2,046.—ELEMIR J. NEY, assignor to the LOWELL MANUFACTURING COMPANY, Lowell, Mass.—*Carpet Pattern.*—April 11, 1865.

No. 2,047.—ELEMIR J. NEY, assignor to the LOWELL MANUFACTURING COMPANY, Lowell, Mass.—*Carpet Pattern.*—April 11, 1865.

No. 2,048.—ELEMIR J. NEY, assignor to the LOWELL MANUFACTURING COMPANY, Lowell, Mass.—*Carpet Pattern.*—April 11, 1865.

No. 2,049.—ELEMIR J. NEY, assignor to the LOWELL MANUFACTURING COMPANY, Lowell, Mass.—*Carpet Pattern.*—April 11, 1865.

No. 2,050.—ELEMIR J. NEY, assignor to the LOWELL MANUFACTURING COMPANY, Lowell, Mass.—*Carpet Pattern.*—April 11, 1865.

No. 2,051.—ELEMIR J. NEY, assignor to the LOWELL MANUFACTURING COMPANY, Lowell, Mass.—*Carpet Pattern.*—April 11, 1865.

No. 2,052.—HELEN P. W. PURDY, Cambridge, Mass.—*Composition in Alto Relievo.*—April 11, 1865.

No. 2,053.—JOHN C. RICHARD, New York, N. Y.—*Trade Mark.*—April 11, 1865.

No. 2,054.—ANDREW LITTLE, New York, N. Y.—*Letter-press Type.*—April 18, 1865.

No. 2,055.—FREDERICK A. GILES, New York, N. Y.—*Top-plate and Balance-cock of a Watch.*—May 9, 1865.

No. 2,056.—A. A. GOULD, Melrose, Mass.—*Shoe.*—May 9, 1865.

No. 2,057.—S. B. JEROME, New Haven, Conn.—*Clock Case.*—May 9, 1865.

No. 2,058.—BENJAMIN F. JOHNSON, assignor to WAGER & FALLS, Troy, N. Y.—*Stove.*—May 9, 1865.

No. 2,059.—HIRAM T. MERRILL and JOHN H. BRENNAN, Chicago, Ill.—*Piano Stool.*—May 9, 1865.

No. 2,060.—NICHOLAS MULLER, New York, N. Y.—*Clock Front.*—May 9, 1865.

No. 2,061.—JOHN POLHAMUS, New York, N. Y.—*Spoon and Fork Handle.*—May 9, 1865.

No. 2,062.—JOHN ROGERS, New York, N. Y.—*Group of Figures.*—May 9, 1865.

No. 2,063.—JOSEPH SCHEIDLER, New York, N. Y., assignor to AMERICAN LEAD PENCIL COMPANY, Hudson, N. Y.—*Trade Mark to be used on Lead Pencils.*—May 9, 1865.

No. 2,064.—CLARK STRONG, Chatham, Conn.—*Coffin Handle.*—May 9, 1865.

No. 2,065.—JOHN TAYLOR WEBSTER, New York, N. Y., assignor to EDWARD HARVEY, Brooklyn, N. Y.—*Floor Oilcloth.*—May 9, 1865.

No. 2,066.—F. E. COVELL, Portland, Me.—*Trade Mark.*—May 16, 1865.

No. 2,067.—HENRY HUNT, Abington, Mass.—*Shoe.*—May 16, 1865.

No. 2,068.—CHARLES L. NIEBERG, assignor to SARGENT & CO., New Haven, Conn.—*Coffin Handle.*—May 16, 1865.

No. 2,069.—WILLIAM W. ROBERTS, Hartford, Conn.—*Coffin.*—May 16, 1865.

No. 2,070.—G. W. and W. P. WOOLEY, Hartford, Conn.—*Coffin.*—May 16, 1865.

No. 2,071.—G. W. and W. P. WOOLEY, Hartford, Conn.—*Coffin.*—May 16, 1865.

No. 2,072.—JOHN L. HADDEN, Philadelphia, Penn.—*Boiler Lid.*—May 30, 1865.

No. 2,073 to 2,077.—ELEMIR J. NEY, assignor to LOWELL MANUFACTURING COMPANY, Lowell, Mass.—*Carpet Pattern.*—May 30, 1865.

No. 2,078.—ISAAC TOWNSEND, Philadelphia, Penn.—*Lemon Press.*—May 30, 1865.

No. 2,079.—STEPHEN D. ARNOLD, New Britain, Conn., assignor to P. and F. CORBIN.—*Coffin Handle.*—June 6, 1865.

No. 2,080.—JAMES G. CLARKE, assignor to S. H. BURTON & CO., Cincinnati, Ohio.—*Cook Stove.*—June 6, 1865.

No. 2,081.—HUBERT C. HART, Unionville, Conn.—*Animal Trap.*—June 6, 1865.

No. 2,082.—FISK MILLS, Washington, D. C.—*Bust of Abraham Lincoln.*—June 6, 1865.

No. 2,083.—AUGUSTUS E. ALDEN, Providence, R. I.—*Photographic Card.*—June 13, 1865.

No. 2,084.—J. A. BAILLY, Philadelphia, Penn.—*Statuette of Abraham Lincoln.*—June 13, 1865.

No. 2,085, 2,086.—ELIAS BROWN, Wappinger's Falls, N. Y.—*Comb, (two cases.)*—June 13, 1865.

No. 2,087.—ROBERT M. BAILEY, Boston, Mass.—*Skirt Border.*—June 13, 1865.

No. 2,088.—M. H. ELMORE, Buffalo, N. Y.—*Music Stand.*—June 13, 1865.

No. 2,089.—A. F. GOODNOW, New York, N. Y., assignor to the LAMSON AND GOODNOW MANUFACTURING COMPANY.—*Trade Mark.*—June 13, 1865.

No. 2,090.—JAMES HORTON and JOHN MARTINO, assignors to STUART & PETERSON, Philadelphia, Penn.—*Plate of a Stove.*—June 13, 1865.

No. 2,091.—EDWARD J. KUNTZE, New York, N. Y.—*Statuette of Shakespeare.*—June 13, 1865.

No. 2,092.—JOHN LETCHWORTH, Philadelphia, Penn.—*Lamp Chimney.*—June 13, 1865.

No. 2,093.—JOHN MARTINO, assignor to STUART & PETERSON, Philadelphia, Penn.—*Plate of a Stove.*—June 13, 1865; antedated May 30, 1865.

No. 2,094.—JOHN MARTINO and JOHN CURRIE, assignors to STUART & PETERSON, Philadelphia, Penn.—*Portable Stove.*—June 13, 1865; antedated May 30, 1865.

No. 2,095.—JAMES W. MCLAUGHLIN, Cincinnati, Ohio.—*Monument.*—June 13, 1865.

No. 2,096.—WM. H. PHILIP, Brooklyn, N. Y.—*Bust of Abraham Lincoln.*—June 13, 1865.

No. 2,097.—JAMES POWELL, Cincinnati, Ohio.—*Medallion Head of Abraham Lincoln.*—June 13, 1865.

No. 2,098.—ISAAC A. SHEPPARD and JULIUS HOLGER, Philadelphia, Penn.—*Cook Stove.*—June 13, 1865.

No. 2,099.—ISAAC A. SHEPPARD, Philadelphia, Penn.—*Cook Range.*—June 13, 1865.

No. 2,100.—PHINEAS SMITH, New York, N. Y.—*Flange of a Stove.*—June 13, 1865.

No. 2,101.—DAVID HATHAWAY, assignor to FULLER, WARREN & CO., Troy, N. Y.—*Stove.*—June 20, 1865.

No. 2,107.—JOHN C. ANDREWS, Woodstock, Me.—*Soldiers' Memorial.*—July 4, 1865.

No. 2,108.—ADOLPH LECONTE, New York, N. Y.—*Medallion of Abraham Lincoln.*—July 4, 1865.

No. 2,109 to 2,132, inclusive.—HENRY G. THOMPSON, New York, N.Y., assignor to HARTFORD CARPET COMPANY, Hartford, Conn.—*Carpet Patterns.*—(24 patents.)—July 4, 1865.

No. 2,133.—JAMES HUTCHINSON, Newark, N. J., assignor to W. and J. SLOANE, New York, N. Y.—*Carpet Pattern.*—July 4, 1865.

No. 2,134.—HENRY BERGER, New York, N. Y.—*Bust of Lincoln.*—July 18, 1865.

No. 2,135.—WILLIAM BOGGS, New York, N. Y.—*Paper Collar, Cuff, &c.*—July 18, 1865.

No. 2,136.—ELEMIR J. NEY, assignor to the LOWELL MANUFACTURING COMPANY, Lowell, Mass.—*Carpet.*—July 18, 1865.

No. 2,137.—GEORGE H. REAY, New York, N. Y.—*Envelope.*—July 18, 1865.

No. 2,138.—C. A. SHAW and J. R. CLARK, Biddeford, Me.—*Sewing Machine.*—July 18, 1865.

No. 2,139.—FRANKLIN SIMMONS, Washington, D. C., assignor to WILLIAM MILLER, Providence, R. I.—*Medallion of Abraham Lincoln.*—July 18, 1865.

No. 2,140.—FRANKLIN SIMMONS, Washington, D. C., assignor to WILLIAM MILLER, Providence, R. I.—*Medallion of General Grant.*—July 18, 1865.

No. 2,141.—FRANKLIN SIMMONS, Washington, D. C., assignor to WILLIAM MILLER, Providence, R. I.—*Medallion of Vice-Admiral Farragut.*—July 18, 1865.

No. 2,142.—FRANKLIN SIMMONS, Washington, D. C., assignor to WILLIAM MILLER, Providence, R. I.—*Medallion of Major General Hancock.*—July 18, 1865.

No. 2,143.—FRANKLIN SIMMONS, Washington, D. C., assignor to WILLIAM MILLER, Providence, R. I.—*Medallion of Major General Wright.*—July 18, 1865.

No. 2,144.—FRANKLIN SIMMONS, Washington, D. C., assignor to WILLIAM MILLER, Providence, R. I.—*Medallion of Major General Parke.*—July 18, 1865.

No. 2,145.—FRANKLIN SIMMONS, Washington, D. C., assignor to WILLIAM MILLER, Providence, R. I.—*Medallion of Major General Hooker.*—July 18, 1865.

No. 2,146.—FRANKLIN SIMMONS, Washington, D. C., assignor to WILLIAM MILLER, Providence, R. I.—*Medallion of William H. Seward.*—July 18, 1865.

No. 2,147.—FRANKLIN SIMMONS, Washington, D. C., assignor to WILLIAM MILLER, Providence, R. I.—*Medallion of Chief Justice Chase.*—July 18, 1865.

No. 2,148.—H. VANDERBECK and E. W. HADDEN, New York, N. Y.—*Picture Frame.*—July 18, 1865.

No. 2,149.—ELIZABETH V. BUNTING, Philadelphia, Penn.—*Bas Relief for Bust of Abraham Lincoln.*—August 1, 1865.

No. 2,150.—GARDNER CHILSON, Boston, Mass.—*Stove.*—August 1, 1865.

No. 2,151.—D. L. GOLD and J. B. ADAMS, Springfield, Ill.—*Trade Mark.*—August 1, 1865.

No. 2,152.—E. J. NEY, assignor to the LOWELL MANUFACTURING COMPANY, Lowell, Mass.—*Carpet Pattern.*—August 1, 1865.

No. 2 153.—GARRETSON SMITH and HENRY BROWN, Philadelphia, Penn., assignors to MARSHBANK & MCCONKEY, Lancaster, Penn.—*Plate of a Cook Stove.*—August 1, 1865.

No. 2,154, 2,155.—N. S. VEDDER, assignor to COX, CHURCH & CO., Troy, N. Y.—*Stove Base.*—(2 patents.)—August 1, 1865.

No. 2,156.—N. S. VEDDER, assignor to COX, CHURCH & CO., Troy, N. Y.—*Cook Stove.*—August 1, 1865.

No. 2,157.—N. S. VEDDER, assignor to COX, CHURCH & CO., Troy, N. Y.—*Top of a Stove.*—August 1, 1865.

No. 2,158.—RUSSELL WHEELER and S. A. BAILEY, Utica, N. Y.—*Cook Stove.*—August 1, 1865.

No. 2,159.—GEORGE J. HALLER, Buffalo, N. Y.—*Bust of Abraham Lincoln.*—August 8, 1865.

No. 2,160.—GEORGE HOSMER, assignor to himself and J. R. WINCH, Boston, Mass.—*Trade Mark.*—August 8, 1865.

No. 2,161.—THOMAS D. JONES, Cincinnati, Ohio.—*Bust of Abraham Lincoln.*—August 8, 1865.

No. 2,162.—RUDOLPH WENDT, New York, N. Y.—*Spoon Handle.*—August 8, 1865.

No. 2,163.—EZECHEL BERG, New York, N. Y.—*Sign.*—August 15, 1865.

No. 2,164.—C. T. FOOTE, Bristol, Conn.—*Clock Case.*—September 12, 1865.

No. 2,165.—A. L. JEWELL, Waltham, Mass.—*Wind Vane.*—September 12, 1865.

No. 2,166.—JOHN MATHEWS, Jr., New York, N. Y.—*Valve Handle.*—September 12, 1865.

No. 2,167.—A. E. POWERS, Lansingburg, N. Y.—*Oil Cloth.*—September 12, 1865.

No. 2,168.—F. J. PIERCE, assignor to ROXBURY CARPET COMPANY, Roxbury, Mass.—*Carpet Pattern.*—September 12, 1865.

No. 2,169.—W. T. REMINGTON, Bridgeport, Conn.—*Ox Yoke.*—September 12, 1865.

No. 2,170.—JACOB STEFFE, assignor to COX, WHITMAN & COX., Philadelphia, Penn.—*Stove.*—September 12, 1865.

No. 2,171.—JASPER VAN WORMER, Albany, N. Y.—*Hall Stove.*—September 12, 1865.

No. 2,172.—RUDOLPH WENDT, New York, N. Y.—*Spoon Handle.*—September 12, 1865.

No. 2,173.—HENRY MANGER, Philadelphia, Penn.—*Bust of Abraham Lincoln.*—September 19, 1865.

No. 2,174.—ELEMIR J. NEY, assignor to the LOWELL MANUFACTURING COMPANY, Lowell, Mass.—*Carpet Pattern.*—September 19, 1865.

No. 2,175.—ELEMIR J. NEY, assignor to the LOWELL MANUFACTURING COMPANY, Lowell, Mass.—*Carpet Pattern.*—September 19, 1865.

No. 2,176.—ELEMIR J. NEY, assignor to the LOWELL MANUFACTURING COMPANY, Lo well, Mass.—*Carpet Pattern.*—September 19, 1865.

Nos. 2,177, 2,178.—D. K. ALBRIGHT, Philadelphia, Penn., and L. H. DE LANGE, Bordentown, N. J.—*Hat, (two cases.)*—October 10, 1865.

No. 2,179.—JOHN AMES, Lansingburg, N. Y.—*Trade Mark.*—October 10, 1865.

No. 2,180.—JOSEPH W. BARTLETT, New York, N. Y.—*Frame of a Sewing Machine.*—October 10, 1865.

No. 2,181.—JAMES P. BAXTER, Portland, Me.—*Trade Mark.*—October 10, 1865.

No. 2,182.—N. CARROLL, Philadelphia, Penn.—*Sun Dial.*—October 10, 1865.

No. 2,183.—LEONARD EGGLESTON, assignor to RUMSEY & Co., Seneca Falls, N. Y.—*Stock of a Cistern or Well Pump.*—October 10, 1865.

No. 2,184.—ROBERT HOE, JR., New York, N. Y.—*Copying Press.*—October 10, 1865.

Nos. 2,185, 2,186.—HENRY S. HUBBELL and ALFRED S. HUBBELL, Buffalo, N. Y.—*Cook Stove, (two cases.)*—October 10, 1865.

Nos. 2,187, 2,188.—HENRY S. HUBBELL and ALFRED S. HUBBELL, Buffalo, N. Y.—*Parlor Stove.*—October 10, 1865.

No. 2,189.—LAPORTE HUBBELL, Bristol, Conn.—*Movement Frame of a Clock.*—October 10, 1865.

No. 2,190.—G. S. LOVELL, Philadelphia, Penn.—*Clock Front.*—October 10, 1865.

No. 2,191.—AUGUSTUS C. MUELLER, St. Louis, Mo., assignor to HELLER & TEIBROCK, Mascoutah, Ill.—*Trade Mark.*—October 10, 1865.

No. 2,192.—FRANCIS J. PEIRCE, assignor to the ROXBURY CARPET COMPANY, Roxbury, Mass.—*Carpet Pattern.*—October 10, 1865.

No. 2,193.—ALBERT E. POWERS, Lansingburg, N. Y.—*Floor Oilcloth.*—October 10, 1865.

No. 2,194.—LOUIS REBISSO, Buffalo, N. Y.—*Bust of General Grant.*—October 10, 1865.

No. 2,195.—JOHN ROGERS, New York, N. Y.—*Group of Statuary.*—October 10, 1865.

No. 2,196.—ISAAC A. SHEPPARD, Philadelphia, Penn.—*Plates of a Cook Stove.*—October 10, 1865.

No. 2,197.—J. L. TREAT, assignor to TREAT, LINDSLEY & Co., New Haven, Conn.—*Reed Organ Case.*—October 10, 1865.

No. 2,198.—NICHOLAS S. VEDDER, Troy, N. Y., assignor to TIBBALS, SHIRK & WHITEHEAD, Chicago, Ill.—*Cook Stove.*—October 10, 1865.

No. 2,199.—A. H. WIRZ, Philadelphia, Penn.—*Trade Mark.*—October 10, 1865.

No. 2,200.—CHAS. B. WOOD, New York, N. Y.—*Coach Lamp.*—October 10, 1865.

No. 2,201.—LORENZO FAIRBANKS, Philadelphia, Penn.—*School Desk.*—October 17, 1865.

No. 2,202.—HORACE HARRIS, assignor to himself and B. S. MOREHOUSE, Newark, N. J.—*Emblem of the National Union.*—October 17, 1865.

No. 2,203.—B. B. HILL, Chicopee, Mass.—*Stock of a Seal or Embossing Press.*—October 17, 1865

No. 2,204.—ELEMIR J. NEY, assignor to the LOWELL MANUFACTURING COMPANY, Lowell, Mass.—*Carpet Pattern.*—October 17, 1865.

No. 2,205.—ALBERT PECK, New York, N. Y.—*Paper Collar.*—October 17, 1865.

No. 2,206.—ISAAC NEWTON PEIRCE, Philadelphia, Penn.—*Glass Bottle.*—October 17, 1865.

No. 2,207.—JACOB STEFFE, Philadelphia, Penn.—*Stove.*—October 17, 1865.

No. 2,208.—JAMES F. BODTKER, Madison, Wis.—*Emblematic Picture.*—October 24, 1865.

No. 2,209.—B. W. BURNETT, Madison, N. J., assignor to HENRY R. BURNETT, Morrisania, N. Y.—*Ornamenting Paper Collars and Cuffs.*—October 24, 1865.

No. 2,210.—ALONZO B. BAILEY, Middle Haddam, Conn.—*Coffin Handle.*—October 31, 1865.

No. 2,211.—JOHN MOORE, Warren, Mass.—*Inkstand.*—October 31, 1865.

No. 2,212.—JOHN POLHAMUS, New York, N. Y.—*Fork or Spoon Handle.*—October 31, 1865.

No. 2,213.—S. G. VREDENBURGH, Mount Vernon, N. Y.—*Badge of the Union League.*—October 31, 1865.

No. 2,214.—JAMES PATERSON, Elizabeth, N. J., assignor to DEBORAH, ALBERT E., and NATHANIEL B. POWERS, Lansingburg, N. Y.—*Floor Oilcloth Pattern.*—October 31, 1865.

No. 2,215.—JOSEPH W. BARTLETT, New York, N. Y.—*Standard and Treadle of a Sewing Mach ne.*—November 7, 1865.

No. 2,216.—PIETRO CINQUINI, assignor to John E. PARKER and H. J. P. WHIPPLE, Meriden, Conn.—*Drawer Pull.*—November 7, 1865.

No. 2,217.—ISAAC T. HOOTON and J. H. CUMMINGS, Boston, Mass.—*Army Badge.*—November 7, 1865.

No. 2,218.—WILLIAM H. MACHEM, Toledo, Ohio.—*Monument to the Memory of Abraham Lincoln.*—November 7, 1865.

No. 2,219.—CHARLES WILLIAMS, Manchester, N. H.—*Parlor Stove.*—November 7, 1865.

No. 2,220.—MARTIN LEIPPE, Lancaster, Penn.—*Trade Mark.*—November 14, 1865.

No. 2,221.—SAMUEL M. RICHARDSON, New York, N. Y.—*Ends of Hinges for Blinds, &c.*—November 21, 1865.

No. 2,222.—SAMUEL M. RICHARDSON, New York, N. Y.—*Cases and Nosings of Locks.*—November 21, 1865.

No. 2,223.—FREDERICK BOHSERT, New York, N. Y.—*Elbow of a Sheet-metal Pipe.*—December 5, 1865.

Nos. 2,224, 2,225.—LEONIDAS MACNEIR, assignor to ISAAC TOWNSEND, Philadelphia, Penn.—*Match Safe.*—December 5, 1865.

No. 2,226.—J. H. STONE, Philadelphia, Penn.—*Base of Sheet-metal Water Vessels.*—December 5, 1865.

No. 2,227.—GREENLEAF L. SWEET, Leominster, Mass.—*Trade Mark.*—December 5, 1865.

No. 2,228.—MARTIN H. CRANE and SAMUEL A. TRAUGH, Cincinnati, Ohio.—*Burial Case.*—December 12, 1865.

Nos. 2,229, 2,230.—CONRAD HARRIS and PAUL W. ZOINER, Cincinnati, Ohio.—*Cooking Stoves.*—December 12, 1865.

No. 2,231.—FRANCIS HOVEY, New York, N. Y.—*Arch of a Letter Press.*—December 12, 1865.

No. 2,232.—OLIVER F. SAGE, Boston, Mass.—*Advertising Carriage.*—December 12, 1865.

No. 2,233.—GEORGE STARKEY, New York, N. Y.—*Statuette.*—December 12, 1865.

No. 2,234.—GUSTAVUS ANTON, assignor to himself, JACOB HIRNER, and F. BRUREIN, Philadelphia, Penn.—*Design for a Fan.*—December 26, 1865.

No. 2,235.—WILLIAM CHRISTIAENSSEN, New York, N. Y.—*Design for a Masonic Group of Statues.*—December 26, 1865.

No. 2,236.—JAMES PATERSON, Elizabeth, N. J., assignor to EDWARD HARVEY, Brooklyn, N. Y.—*Design for a Floor Oilcloth.*—December 26, 1865.

No. 2,237.—SAMUEL M. RICHARDSON, New York. N. Y.—*Design for a Hasp Hook.*—December 26, 1865.

No. 2,238.—WILLIAM P. WEYMAN and BENJAMIN F. W. WEYMAN, Pittsburg, Penn.—*Design for a Trade Mark.*—December 26, 1865.

REISSUES.

No. 1,844.—W. H. ALLEN and OTIS WARREN, assignees of said W. H. ALLEN, Fryeburg, Me.—*Apparatus for Leaching Tan Bark and Preparing Extracts.*—Patented July 26, 1862; reissued January 3, 1865.

Claim.—First, the process herein described of leaching bark or extracting the soluble ingredients from substances containing the same by the application to the bark or other substance of the leaching or solving liquid, in the manner hereinbefore set forth, distributing the said liquid in fine streams or spray evenly over the surface and letting it percolate into and through the mass of bark or substance until it shall become duly saturated, and keeping up the supply of liquid, as set forth, until the said bark or substance shall be exhausted, substantially as specified.

Second, the herein described apparatus for leaching bark or for extracting the soluble matter from solid substances containing the same—that is to say, the combination with a vat or tub of suitable form, of a false bottom and rotating distributing arm, the whole being constructed for operation, substantially as set forth.

Third, proportioning the areas of the apertures in the rotary distributing arm to the distance of each from its centre of revolution, so that a uniform quantity of liquid shall be distributed over and through the mass, substantially in the manner set forth.

No. 1,845.—E. H. ASHCROFT, J. A. JOHNSON, and A. S. MOORE, assignees by mesne assignments of JOSEPH BURRILL, Lynn, Mass.—*Treating Leather.*—Patented May 3, 1864; reissued January 3, 1865.

Claim.—First, the use of gelatine in the treatment of leather after it is tanned for the purpose of improving its quality.

Second, the combination of gelatine with a solution of hemlock bark, or other substance containing tannin. and alum, substantially as described and for the purpose set forth.

No. 1,846.—J. W. NORCROSS, Middletown, Conn.—*Rowlock.*—Patented September 27, 1864; reissued January 3, 1865.

Claim.—First, the use of a plate or bracket D, with centre pin *b*, applied in combination with a rowlock B, and with the gunwale of a boat, substantially as and for the purpose set forth.

Second, the flange C, and bracket D, either one being provided with a rim overlapping the edge of the other and applied in combination with a rowlock B, of any desirable construction, substantially as and for the purpose described.

Third, the spring *c*, applied in combination with the rowlock B, in the manner and for the purpose substantially as shown and described.

No. 1,847.—LOUIS S. ROBBINS, New York, N.Y.—*Preparing Barrels to contain Petroleum, Coal Oil, &c.*—Patented May 3, 1864; reissued January 3, 1865.

Claim.—The combination formed by saturating the entire surface of the cask with oil, and the inner body of the staves and heads with an alkaline solution, or with soapsuds, substantially as and for the purpose set forth.

Also, saturating the staves and heads of the casks with a strong alkaline solution, or with soapsuds, as and for the purposes above specified.

No. 1,848.—JOHN A. CUMMINGS, Boston, Mass.—*Artificial Gums and Palate.*—Patented June 7, 1864; reissued January 10, 1865.

Claim.—The plate of hard rubber or vulcanite or its equivalent for holding artificial teeth or teeth and gums, substantially as described.

No. 1,849.—SIMON H. KENNEDY and HENRY L. ELDER, Philadelphia, Penn., assignees of WILLIAM FIELDS and ISRAEL TOWNSEND, Wilmington, Del.—*Tanning Hides and Skins.*—Patented June 7, 1864; reissued January 10, 1865.

Claim.—First, the employment or use in tanning hides or skins of a current of compressed air applied to the hides or skins in combination with the ordinary or other tanning liquors, in the manner and for the purpose substantially as specified.

Second, the perforated pipe E, extending through the air-tight vat A, near its bottom, in combination with an air pump and loaded valve, all constructed and operating in the manner and for the purpose substantially as herein shown and described.

No. 1,850.—JOHN H. IRWIN and JAMES F. GRIFFIN, Chicago, Ill., assignees of JOHN IRWIN, aforesaid.—*Lantern.*—Patented November 4, 1862; reissued January 10, 1865.

Claim.—First, the cap or deflector H, arranged below the top of the wick tube, and operating substantially in the manner and for the purposes herein specified and set forth.

Second, the combination of the jacket G. and deflector H, and forming the deflected air passage with the holes *e*, all arranged and operating substantially as and for the purposes herein shown and described.

Third, in combination with the jacket G, deflector H, and holes *e*, the prolonged oil cup E, and vertical plates *d*, arranged and operating substantially as and for the purposes described.

No. 1,851.—THOMAS SHARP, Chicago, Ill.—*Car Wheel.*—Patented September 29, 1863; reissued January 10, 1865.

Claim.—First, the construction of a car wheel, the combination of the two flanges *a d*, with the broad tread described, when arranged and operating with respect to the different gauges herein specified, substantially as delineated and set forth.

Second, constructing said car wheel of a single casting, in the manner and for the purposes herein set forth and described.

No. 1,852.—STEPHEN S. BARTLETT, Providence, R. I., and THOMAS H. DODGE, Worcester, Mass., assignees of said STEPHEN S. BARTLETT.—*Mortising Machine.*—Patented September 24, 1861; reissued January 17, 1865.

Claim.—First, giving the bed or table in a mortising machine two independent supports so that the upper support may be loosened to permit the bed or table being adjusted or placed in a horizontal or inclined position, while the bottom support prevents the table or bed from sliding or dropping down bodily during the operation whereby mortises can be cut perpendicular through the timber, or bevelled to any angle required.

Second, so combining the bed or table in a mortising machine, with its supporting mechanism, as that said table or bed can be freely rocked back and forth by the operator upon a centre or axis of motion above the support upon which it rests and turns, whereby mortises with perpendicular or inclined ends can be cut at the will of the operator, substantially as and for the purposes described.

Third, the combination of the head piece G, sliding head stock L, and its lever adjusting fulcrum or collar K, with lever F, and arbor E, substantially as and for the purposes set forth.

Fourth, the combination of the platform B, and stand E, with the main frame and supporting piece *f*, substantially as and for the purposes set forth.

Fifth, so arranging, in a mortising machine, the sliding or movable wrist or collar by which the change of motion of the arbor and chisel is obtained, as that it shall be above or higher than the platform upon which the material to be mortised rests, whereby it is comparatively free and safe from flying chips or dirt and other clogging matter.

No. 1,853.—GEORGE FOCHT, Reading Penn.—*Attachment for Tackle Blocks.*—Patented September 28, 1858; reissued January 17, 1865.

Claim.—So attaching a tackle block or pulley that it may turn freely in all directions, and be retained in the proper relative positions with the rope when the strain on the rope ceases, substantially as described.

Also, the combination of the stud piece of the pulley with the spindle, having a spiral spring around its other end, substantially as and for the purpose described.

Also, the combination of the stud piece of the pulley with a spindle, with plate F, having a bell-mouthed or flaring socket, as and for the purpose described.

Also, extending the sides or edges of the frame of the pulley over and beyond the edge of the wheel, and curling or rounding outward the edges of this frame, so as to present a smooth, rounded surface for the rope to strike against, thereby lessening the wear upon the rope, substantially as described.

No. 1,854.—CYRUS W. SALADEE, Putnam, Ohio.—*Curry-comb.*—Patented December 27, 1864; reissued January 24, 1865.

Claim.—First, the two metallic handles A′ A′, or their equivalent, secured to the sides or ends of the curry-comb, in the manner and for the purpose substantially as shown and described.

Second, the frame or plate A, rivets B B B B, studs D D D D, figure 1, projections, figure 3, in combination with the adjustable handles A′ A′, in the manner and for the purpose substantially as shown and described.

No. 1,855.—JOSEPH W. WAYNE and JOSEPH R. MILLER, Ohio.—*Folding Table.*—Patented January 12, 1864; reissued January 24, 1865.

Claim.—The folding table, having one pair of legs B B′, hinged to the top A′, and another pair of legs D D′, pivoted to and intersecting with the first pair, the upper ends of the legs D D′ being, in the standing condition of the table, secured to the top by sockets *a a′* and catches E E , or their equivalents, and being wholly disconnected from the top for folding, as herein explained.

No. 1,856.—WILLIAM A. BEMIS, Lyndon Centre, Vt.—*Pumps.*—Patented August 9, 1864; reissued January 24, 1865.

Claim.—The two plungers D D′, the rods E E′, of which are connected by a lever G, having rods H connected to it, and all arranged with a platform F, to operate as and for the purpose set forth.

No. 1,857.—JOHN DAVIS, Alleghany City, Penn.—*Railroad Car Brakes.*—Patented October 20, 1863; reissued January 24, 1865.

Claim.—First, a brake for wheel vehicles, brought to bear on the wheel by a spring and a cessation or relaxation of the power applied to draw the vehicle, and retracted therefrom by the said drawing power, substantially as herein described, and for the purpose set forth.

Second, the arrangement of the bars *e* and *f*, guide plate *d*, brakes *c*, springs *s*, levers *p* and *q*, rods *i j k m* and *n*, swivel plate 5, pieces *o* and 7, and brace *v*, the whole being constructed, arranged, and operating in the manner and by the means herein described, and for the purpose set forth.

No. 1,858.—CHARLES H. LAVIS, Philadelphia, Penn.—*Machine for Loading Metallic Cartridge Cases.*—Patented August 9, 1864; reissued January 24, 1865.

Claim.—First, raising the shell or case of the metallic cartridges, for the purposes as herein shown and described.

Second, the block *m*, or its equivalent, for the purpose specified.

Third, the groove *l* in the loading wheel, for the purpose set forth.

Fourth, the combination of the block *m* and groove *l*, as substantially described.

No. 1,859.—WILLIAM F. SHAW, Boston, Mass.—*Heater for Smoothing-irons.*—Patented September 1, 1857; reissued January 24, 1865.

Claim.—First, the combination of a heating apparatus, in which gas or hydrocarbon vapors are used as or for fuel, with a stand or support B made so as to gather the heat and products of combustion and conduct them into the chamber or interior of the iron, substantially as specified.

Second, making the flat-iron D, with an ascending flue or flues *i i* and *h*, inlet and discharge openings *k* and *l l*, arranged in the body of the iron, and so as to be used with a burner and stand, substantially as specified.

Also, so constructing the stand or rest *n*, for sustaining the handle of the flat-iron, as to cause the face of the iron to take an inclined position, as and for the purpose specified.

Also, making the stand or support B, with a tubular projecting neck, as and for the purpose specified.

No. 1,860.—THE UNITED STATES BARREL-COATING COMPANY, New York, N. Y., assignees by mesne assignment of ALBERT J. HOOK and J. H. DARLINGTON.—*Artificial Gums and Palate.*—Patented June 7, 1864; reissued January 24, 1865.

Claim.—First, sealing barrels and other vessels by means of a compound of glue and molasses, or their equivalent, substantially as and for the purpose described.

Second, subjecting the said composition, after it has been applied to the vessel under treatment, to the action of tannin, substantially as and for the purpose above described.

No. 1,861.—ERASTUS BLAKESLEE, New Haven, Conn.—*Cartridge-box.*—Patented December 20, 1864; reissued January 31, 1865.

Claim.—A cartridge-box, constructed in the manner described, to carry one or more movable tubes, each tube containing two or more cartridges, as and for the purpose specified

No. 1,862.—RICHARD COLBURN and L. W. HANSON, Norwich, Conn.—*Supplemental Valves for Steam Engines.*—Patented May 20, 1856; reissued January 31, 1865.

Claim.—The combination of an apparatus, substantially as described and for the purposes specified, with the cylinder and piston of a steam engine, such apparatus consisting of the passages *f g*, the valve boxes E E′, the valves K K′, their seat passages *h h*, and the lever L′, or its equivalent.

Also, the said apparatus, constructed substantially as described and for the purpose or purposes specified.

No. 1,863.—JOSEPH F. HAMILTON, Pittsburg, Penn.—*Valve Gear.*—Patented July 14, 1863; reissued January 31, 1865.

Claim.—The arrangement of the regulating coupling arms *h*, lifters or propeller arms *j k*, springs *l*, levers *m* and *n*, and link *d*, when used in connection with a governor, rock shaft, or eccentric of steam engines, the whole being constructed and operating substantially as herein described and for the purpose set forth.

No. 1,864.—JOSEPH F. HAMILTON, Pittsburg, Penn.—*Arrangement of Valves for Steam Engines.*—Patented July 24. 1860; reissued January 31, 1865.

Claim.—The use of the valve *i*, placed in one of the receiving ports of steam engines, as herein described, and for the purpose set forth.

No. 1,865.—LAWRENCE O'BRIEN, Indianapolis, Ind.—*Carding Machines.*—Patented October 6, 1863; reissued January 31, 1865.

Claim.—The arrangement of the roll D, between the main card cylinder A and the endless apron C, substantially as and for the purpose set forth.

Also, the construction of the endless apron C, substantially as herein described, so as to carry the fibres on top of the slats, and dust and other foreign matters between them, the fibres being delivered to the roll D, and the foreign matters discharged in passing over the upper roll F, when the same is applied in the manner specified.

No. 1,866.—FRANCIS PEABODY, Salem, Mass.—*Keyed Instrument of Music.*—Patented November 10, 1863; reissued January 31, 1865.

Claim.—As an improvement in mechanism for operating the sound-producing parts of a musical instrument, the above-described arrangement of dents, or their equivalents, on a rotary plate G, viz., in concentric circles, and with the circle of treble and bass dents alternating with respect to one another, substantially as set forth.

Also, in combination with the said arrangement of dents on a rotary plate, the arrangement of the bass and the treble-key levers, or the parts which produce or aid in producing the musical sounds, in two separate series or sets, whereby those of the bass notes are in one set, and those of the treble notes are in the other set, substantially as specified.

Also, in combination with the keys of a keyed musical instrument, a series of operative key levers and a rotary plate, provided with dents, arranged on its face, as specified.

Also, the combination of the separate operating wheel D and its operative mechanism, substantially as described, with the plate G, provided with dents, or their mechanical equivalents, arranged as explained.

Also, the combination of the hinged or elevating frame M with the plate G, and the series of operating levers C C′, or their equivalents.

Also, the improved speed regulator, composed of one or more adjustable wings N N′, and their stationary surface, or wing or wings, and mechanism for varying the position of the adjustable wing or wings relatively to one or more stationary wings, substantially as and for the purpose specified.

Also, a combination, consisting of the rotary plate G, with its arrangement of dents, the series of key levers C C′, or their mechanical equivalents, and a mechanism for imparting a rotary motion to the plate G, the said key levers being applied to the keys and to the dents, by means and so as to operate therewith, substantially as specified.

No. 1,867.—WILLIAM E. LOCKWOOD, Philadelphia, Penn., assignee by mesne assignment of WALTER HUNT.—*Paper Collars.*—Antedated July 24, 1854; reissued January 31, 1865.

Claim.—As a new manufacture a shirt collar, in which paper is used to imitate starched linen, and which is made of the desired shape by dies or forms applied under pressure.

No. 1,868.—EMMA A. BLACKWELL, Ovid, N. Y., administratrix of the estate of ISHI V. BLACKWELL, deceased.—*Machine for Hulling Clover.*—Patented March 30, 1858; reissued February 14, 1865.

Claim.—First, the construction of the grinding surfaces of clover machines with teeth made and case-hardened, substantially as described.

Second, the application of the gravitating curtain H, at the point of eduction of the blast, for the purpose of modifying and diffusing the same, and preventing the waste of seed, substantially in the manner shown and described.

Third, the combination and arrangement of the overshot grating cylinder C, constructed as described, with the concave E, feed roller D, and blast generator G, the whole operating conjointly in the manner and for the purpose herein described.

No. 1,869.—F. F. FOWLER, Crane Township, Ohio.—*Hay Elevator.*—Patented April 17, 1860; reissued September 9, 1862; again reissued February 14, 1865.

Claim.—First, in the construction of elevators for hay, the combination of the permanent pyramidal supporting frame, and the revolving cross-bar and its braces, with a central supporting piece, for allowing the cross-bar and its braces to turn upon the supporting frame, substantially in the manner and for the purposes described.

Second, in the construction of elevators for hay, in combination with the cross-bar revolving upon an under supporting frame, the so arranging of the sheaves and hoisting tackle that the weight to be raised shall be upon one end of the cross-bar, while the power to raise that weight is applied to the opposite end of the cross-bar, for the purpose of enabling the use of a small and compact structure that may be easily transported, or moved, occupying but little space, and sufficiently rigid within itself, without the use of additional guys, braces, or other fastenings, as herein described.

Third, in the construction of elevators for hay, two pyramidal frames, one placed upon the other, the under frame being upright, and the upper one inverted, and the head blocks, or pieces of both, so united as that the upper frame may freely turn upon, while it is supported by the lower frame, substantially as described.

No. 1,870.—JOHN W. FOSTER, Washington, D. C.—*Cancelling Stamps.*—Patented January 3, 1865; reissued February 14, 1865.

Claim.—First, a cancelling stamp, provided with an annular cutter C, and an internal gauge B, either one or both adjustable in relation to each other, substantially as and for the purposes set forth.

Second, the combination of the double set screws E F with the cutter C, and gauge B, for the purpose specified.

Third, the adjustable blocks H H, operated by the screw J, and employed to lock the type of the stamp, substantially as set forth.

No. 1,871.—F. F. FOWLER, Crane Township, Ohio.—*Hay Elevator.*—Patented April 17, 1860; reissued September 9, 1862; again reissued February 14, 1865.

Claim.—First, so constructing a machine for elevating hay, or other like products, that the same power employed in elevating said products will also revolve the top of the machine, while the load is being elevated, or when high enough to pass over the top of the stack, and so that it may be raised from either or any side of the machine, and deposited on the stack at any other side, and wherever desired, substantially as described.

Second, an elevation or crane, when constructed as herein described, in combination with a device for grasping hay, or other products, and depositing it upon a stack, substantially as described.

No. 1,872.—SARAH A. MOODY, New York, N. Y.—*Hoop Skirt.*—Patented May 10, 1864; reissued February 14, 1865.

Claim.—A hoop skirt, having any number of its lower hoops divided and jointed on each side with flexible joints, substantially as and for the purpose herein described.

No. 1,873.—HENRY J. SEYMOUR, Troy, N. Y., assignor to ROBERT WOOD, West Troy, N. Y.—*Chair Seat.*—Patented March 29, 1864; reissued February 14, 1865.

Claim.—Chair seats and chair backs, made substantially as described, as a new article of manufacture.

No. 1,874.—HENRY WATERMAN, Brooklyn, N. Y.—*Tempering Wire.*—Patented August 24, 1858; reissued February 14, 1865.

Claim.—The process, substantially such as herein described, of hardening steel wire, or other thin steel, of any desired length, which process consists in drawing the wire continuously, while under tension, through the heating medium, and thence through the hardening liquid.

No. 1,875.—ROBERT D. BROWN, Covington, Ind.—*Automatic Grain Binder.*—Patented April 7, 1863; reissued February 21, 1865.

Claim.—First, in combination with a cradle B of any suitable construction, the arms C C′, attached to shafts *c c*, geared together by wheels *c′*, and rotated at proper intervals by a cogged segment *c*5, to elevate the arms C C′, and carry the band around the compressed gavel.

Second, the combination of the cam wheel *c*2 with the arms C C′, for securing the band in the jaws *c*4.

Third, in combination with the arms C C′, constructed and operating substantially as herein described, the employment or use of two pairs of griping or twisting jaws D D, attached by separate pivots *d d* to a common journal D′, and operating substantially as and for the purpose set forth.

Fourth, driving the jaws D by the shaft E, working within the hollow journal D′, in the manner explained, to compress the said jaws with force corresponding with that required to rotate them.

Fifth, the combination of the spring stop *k*2, cam *i*2, and wheels I and K, when the said parts are constructed, arranged, and operated in the manner and for the purposes herein specified.

Sixth, the tucking band *f*, advanced and rotated, substantially as described, for the purpose of tucking the twisted ends under the band.

Seventh, holding the band against the pressure of the tucking band, by means of the claw *f*, or its equivalent, substantially as described.

Eighth, the combination and arrangement of the shafts F F′, yoke *f*2, pinions *f*3 *f*4, guides H, and segment racks *h*, to impart the required motion to the tucker *f*, and claw *f*1, substantially as set forth.

Ninth, the arm G, provided with a cogged segment *g′*, and employed to advance the shafts F F′ intermittently, in the manner and for the purposes explained.

Tenth, the segment cog wheel I *i i′*, constructed as described, in combination with the twisting jaws D, and tucker *f*, or their equivalents.

Eleventh, the arm L, or its described equivalent, for casting the finished sheaf, substantially as explained, when used in the described combination with the pivoted table N or N2, or other suitable receptacle for carrying the sheaves, and depositing them in heaps.

Twelfth, the curtain P or P2, operated by the falling and rising of the table N or N2, in manner substantially as and for the purposes set forth.

Thirteenth, the mode of combining the worm *s*2, and slotted disk O, or any substantially equivalent devices, for counting the number of sheaves to be deposited in each heap, with an automatic binding machine, substantially as herein described.

Fourteenth, the combination of the sheath holder B B′, or equivalent device, with rotating griping jaws for twisting the band, and the tucking band and holder, as described.

No. 1,876.—ROBERT D. BROWN, Covington, Ind.—*Raking Attachment to Harvester.*—Patented April 7, 1863; reissued February 21, 1865.

Claim.—First, the continuously revolving rake B, carried forward over the platform, and back beneath the same, by means of driving chains, bolts, or their equivalents, and elevated to its working position during its forward motion, and retracted in passing beneath the platform, by means of the crank D, or its equivalent, working in a slot, for the purposes specified.

Second, the intermittent cradle F *f*, operated as described, in combination with the continuously revolving rake B, for the purposes set forth.

No. 1,877.—FREDERICK P. DIMPFEL, New York, N. Y.—*Steam Engine.*—Patented July 1, 1851; reissued February 21, 1865.

Claim.—First, the means herein described for connecting the steam piston of a steam engine with the crank thereof, said means consisting of a piston rod, fixed cross-head, side bars, forked connecting rod and bolts, or the equivalents thereof, the several devices being arranged and operating substantially as herein set forth, in such manner that the cross-piece of the connecting rod, which is placed transversely to the crank shaft, shall be on opposite sides of the axial line of said shaft at opposite extremities of the stroke of the piston.

Second, the forming of the eduction and induction chambers in cylinder heads of steam engines, and furnishing them respectively with supply and exhaust valves, substantially in the manner and for the purposes described.

Third, the forming of two steam chambers in one or both heads of a steam-engine cylinder, in combination with induction and eduction steam-pipes, and with puppet or other valves, in such manner that a large portion of the steam shall be saved which is lost or wasted in the nozzles or steam-ways of engines as ordinarily constructed, substantially as described.

Fourth, the removable chambered cylinder head, in combination with the extension chambers *u u*, and steam-pipes *r r*, connected to the latter, substantially as and for the purposes described.

Fifth, the manner, substantially as described, of applying the induction and eduction valves, with their respective chambers, to steam cylinders, for the purpose set forth.

No. 1,878.—WILLIAM A. LIGHTHALL, New York, N. Y.—*Condenser.*—Patented December 17, 1861; reissued February 21, 1865.

Claim.—Securing the packing rings C, or their equivalents or substitutes, as herein described, in the apertures B, in the head sheet A, around the ends of the tubes D, without the use of a follower or other analogous mechanical device or arrangement, as herein set forth.

No. 1,879.—WILLIAM A. LIGHTHALL, New York, N. Y.—*Portable Water Condenser.*—Patented July 29, 1862; reissued February 21, 1865.

Claim.—First, the combination of the tank N, filter B, condenser F, and heater G, when arranged in relation to each other in the manner and for the purposes herein set forth.

Second, the construction of the case of the condenser F with spaces above and below the series of tubes K, as and for the purposes set forth.

No. 1,880.—CHARLES PERLEY, New York, N. Y.—*Naval Ram for the Destruction of the Enemy's Ships.*—Patented February 24, 1863; reissued February 21, 1865.

Claim.—First, in combination with a horn or ram capable of being projected from or drawn into a vessel below the water line, a valve gate or gates to close the orifice when the same is removed, as specified.

Second, a cutting edge provided at the end of a horn or ram to prevent the same glancing off when striking diagonally against an opposing vessel, as set forth.

Third, in combination with a movable horn or ram, a weight or mass of material employed behind said horn or ram, but separate from the vessel itself, and acting to drive the horn into the vessel to be destroyed, substantially as set forth.

No. 1,881.—MILTON D. WHIPPLE, assignor by mesne assignments to the WHIPPLE FILE MANUFACTURING COMPANY, Cambridge, Mass.—*Machine for Cutting Files.*—Patented October 7, 1856; reissued February 21, 1865.

Claim.—Feeding the blank forward and rotating it upon its axis as the cutting proceeds, when it is operated upon by the vibrating cutters, in the manner substantially as herein set forth.

Also, supporting one end of the blank in a socket that is free to move with it and to accommodate itself to blanks of various lengths, substantially as set forth.

Also, in combination with a round blank that is rotated for the purposes described, operating upon the blank immediately beyond its point of support, in the manner and for the purpose substantially as herein described.

Also, the method herein described of operating the cutters by means of the wipers *b* and the springs A2 and Z, whereby the force of the blow is diminished as the size of the blank decreases, as set forth.

Also, forming the cutters of circular disks, or of portions thereof, in the manner and for the purpose substantially as herein set forth.

No. 1,882.—HORATIO AMES, Falls Village, Conn.—*Manufacture of Wrought Cannon.*—Patented August 16, 1864; reissued February 28, 1865.

Claim.—In a wrought-iron gun, composed of a series of concentric rings welded together, and to the plates forming the breech of the gun, the turning or planing of the contact surfaces thereof before welding, so as to have them scaled and clean to insure perfect welding, substantially as described.

Also, in a wrought-iron gun, composed of a series of concentric rings welded together, the so shaping of one of the end surfaces that is to be welded to the next adjacent end surface as that they shall first unite at or near the base, and thence be welded toward the perimeter, substantially as and for the purpose described.

Also, as an auxiliary in the making of a wrought-iron gun, composed of a series of concentric rings welded together, a portable and removable centring pin, for the purpose of matching the sections as they are put together, and for keeping the bore of the gun as nearly central and straight as possible, substantially as described.

Also, a wrought-iron gun, composed mainly of a series of concentric rings that are fitted and lap and butt welded together, substantially as described.

No. 1,883.—LOUIS PAUL ANGENARD, New York, N. Y.—*Method of Making Mirrors or Looking-glasses* —Patented January 31, 1865; reissued February 28, 1865.

Claim.—The use and application of a solution of platina as a substitute for quicksilver for coating the surface of glass for making mirrors and looking-glasses, substantially as hereinafter described.

No. 1,884.—REUBEN COMINS, Troy, N. Y.—*Truss Bridge.*—Patented February 10, 1857; reissued February 28, 1865.

Claim.—The employment of a shoe for bridges and truss frames, which is of the inverted T, angular or curved shape where the ends of the diagonal braces rest, in combination with the projections, plates, or spurs, extending through the stringers to the washers and nuts upon the opposite side of such stringers, in the manner and for the purposes substantially as herein described and set forth.

No. 1,885.—LEWIS FRANCIS and CYRUS H. LOUTREL, assignees of LEWIS FRANCIS, New York, N. Y.—*Composition of Matter.*—Patented March 8, 1864; reissued September 27, 1864; again reissued February 28, 1865.

Claim.—Combining an alkali or alkalies, or alkaline earths, or any of their compounds, with glue or glycerine, to form a new and useful composition of matter for various purposes.

No. 1,886.—LEWIS FRANCIS and CYRUS H. LOUTREL, assignees of LEWIS FRANCIS, New York, N. Y.—*Composition of Matter.*—Patented March 8, 1864; reissued September 27, 1864; again reissued February 28, 1865.

Claim.—Combining glue, glycerine, and sugar, or any other saccharine matter, to form a new and useful composition of matter for various purposes.

No. 1,887.—LEWIS FRANCIS and CYRUS H. LOUTREL, assignees of LEWIS FRANCIS, New York, N. Y.—*Composition of Matter.*—Patented May 6, 1862; reissued February 28, 1865.

Claim.—Combining glue, glycerine, and castor oil, or any of the fixed oils, to form a new and useful composition of matter for various purposes.

No. 1,888.—REUBEN HOFFHEINS, Dover, Penn.—*Harvester.*—Patented November 3, 1863; reissued February 28, 1865.

Claim.—First, the main frame and gear frame A A, constructed substantially as represented in Fig. 4, and herein described.

Second, the main frame and gear frame A A, constructed open at each end, in combination with shafts, gearing, and double drive wheels, arranged and operating substantially as and for the purposes specified.

Third, the flange *a* cast or formed upon the gear frame, for the combined purposes of strengthening the latter and protecting the crank shaft E, substantially as described.

Fourth, the movable tongue K adapted to be attached to the frame on either side of the wheel B′, and employed to support or raise the inner end of the cutting apparatus, substantially as described.

Fifth, providing for the attachment of the tongue or draught pole of a harvesting machine upon a draught frame on both the inner and outer sides of the drive wheel B′, in combination with the provision made for changing the point of support of the cutting apparatus from the inner to the outer side of the drive wheel B′, and *vice versa*, substantially as and for the purpose set forth.

Sixth, attaching the cutting apparatus by means of the compound swivel joint, substantially as described, to the drag bar I, arranged as described, for the purpose set forth.

Seventh, the combination of the transverse swivel joint and bracing guides *h′*, substantially as and for the purpose set forth.

Eighth, the inner shoe constructed with the rear extension *h*4, forming a means of attachment beween the cutting apparatus and the platform, and with a means of attachment between it and a pendulous drag bar, so as to form a joint connection therewith, all substantially in the manner and for the purposes herein described.

Ninth, the rigid arm projecting inward from the finger beam to a position beyond the wheel B′, in combination with a suspending device and an extension of the tongue or draught pole, substantially as and for the purposes set forth.

No. 1,889.—JUNIUS JUDSON, Rochester, N. Y.—*Steam Engine Governor.*—Patented March 4, 1851; reissued February 28, 1865.

Claim.—Communicating the action of a governor to its valve or valves, gate, or equivalent regulating device, in such a manner that when the speed of the engine or motor becomes low, either from increase of resistance to overcome, or from diminution of pressure of the motive power, the said valve or equivalent will be accelerated or caused to move through a comparatively large space, to uncover or cover a comparatively large area of the valve or gate opening, so as to add to or take from the engine or motor, by a given change of its speed, comparatively large amounts of power; and also, when the speed becomes high, either from diminution of resistance to overcome, or from increase of pressure of the motive power, the said valve or equivalent will be, by a like change of speed, retarded or caused to move through a comparatively small space, to uncover or cover a comparatively small area of valve opening, so as to add to or take from the engine or motor comparatively small amounts of power for the purpose of securing, as nearly as may be, uniform speed of the engine or motor under all variations of the power or resistance, substantially as herein set forth.

No. 1,890.—DENNIS G. LITTLEFIELD, Albany, N. Y.—*Base-burning Stove.*—Patented January 24, 1854; reissued November 8, 1864; again reissued February 28, 1865.

Claim.—The combination of a reserve fuel supplying cylinder, a separate fire pot, a chamber to receive the products of combustion, and an exhausting exit flue, substantially as and for the purposes described.

No. 1,891.—WILLIAM D. O'BRIEN, Brooklyn, N. Y.—*Railroad Rails.*—Patented July 19, 1864; reissued February 28, 1865.

Claim.—An iron bar formed thicker in the middle than at the sides or edges, and curved in substantially the form specified for the purposes set forth.

Also, the joint plate *e*, curved on its under side to set upon the sill and with its upper surface corresponding to the under side of the railroad bars, for the purposes and as specified.

No. 1,892.—D'ARCY PORTER and K. SMITH, assignees of D'ARCY PORTER, Cleveland, Ohio.—*Straw Cutter.*—Patented July 5, 1864; reissued February 28, 1865.

Claim.—First, the spring D E, or its equivalent, knife F′, and vibrating box or board, when arranged and operating substantially as and for the purpose set forth.

Second, the gauge plate J, and box B, in combination with the knife F′ and spring D E, as and for the purpose hereinbefore described.

No. 1,893.—RANDAL PRATT, Maple Township, Penn.—*Horse Hay Rake.*—Patented January 8, 1856; reissued February 28, 1865.

Claim.—First, a wheeled rake, with a stand-board or platform C, two sets of treadle levers, two foot-boards, and a lifting and a pressure bar, arranged and operating substantially in the manner and for the purpose described.

Second, a wheeled rake, with a hand rail, a stand-board, treadle levers, foot-boards, and a lifting and a pressure bar, arranged and operating substantially in the manner and for the purpose described.

Third, the arrangement of the pressure bar *k* upon levers *k′ k′*, which are independent in their rising movements of the treadle levers *k*2 *k*2, but are dependent upon said levers or their equivalent in their depressing movement, substantially as and for the purposes herein set forth.

Fourth, the arrangement in a wheeled rake of independently articulating teeth, a lifting bar, a pressure bar and treadles, substantially in the manner and for the purposes herein described.

Fifth, the arrangement with rake teeth, which terminate on their axial rod as described, of

a pressure bar and a lifting bar, such bars having separate movements imparted to them, and both acting on the teeth at points in rear of the axial bar *b*, substantially as herein described.

Sixth, the concentric arrangement of the lifting and pressure bars, or either of them, in combination with the extending of the frames or levers of said bars in front of the axial bar *b*, and with the arrangement of the bars G and K, in rear of the axial bar *b*, substantially in the manner and for the purpose described.

Seventh, a treadle frame with lifting bar G, pivoted concentric with the axis of motion of the rake teeth, in the manner and for the purpose set forth.

No. 1,894.—RANDAL PRATT, Maple Township, Penn.—*Horse Hay Rake.*—Patented January 8, 1856; reissued February 28, 1865.

Claim.—First, constructing a wheeled horse rake with a vibrating clearer to its teeth, so that the attendant or driver while riding on the rake carriage can operate the clearer and the rake teeth, substantially in the manner and for the purpose described.

Second, the arrangement and connection of a vibrating clearer with a vibrating rake, so that converse vibrating movements can be imparted to the rake teeth and to the clearer at the same time and by the one actuating contrivance, while the machine is in operation and the attendant, who vibrates the rake and clearer, is mounted upon the machine, substantially as herein described.

No. 1,895.—RANDAL PRATT, Maple Township, Penn.—*Horse Hay Rake.*—Patented January 8, 1856; reissued February 28, 1865.

Claim.—The staple guides *p*, to rake teeth, substantially as and for the purposes set forth.

No. 1,896.—LEONARD J. WORDEN, Utica, N. Y., assignor to himself and HICKS, WOLFE & CO., New York, N. Y.—*Casting Bottoms on Sheet Metal Ware.*—Patented June 2, 1863; reissued February 28, 1865.

Claim.—The employment of east-iron bottoms in the manufacture of tea-kettles, wash boilers, coal hods, pans, and other articles for kitchen use, united to and combined with the cylinder or body thereof in the manner and by the means substantially as herein described and set forth.

No. 1,897.—BRADFORD S. PIERCE, New Bedford, Mass., and MASON PIERCE, New York, N. Y.—*Machine for Making Drain Pipe.*—Patented April 19, 1859: reissued February 28, 1865.

Claim.—First, a mould consisting of a case capable of being properly secured around the material while the pipe is being moulded and of being freed from the pipe when the moulding is completed, in combination with a core, and also with a core socket having a provision for freeing the socket or pipe or both from the core, the whole operating substantially as set forth.

Second, the arrangement of the mixing apparatus and of the core-relieving devices above the platform which conveys the moulds, in the manner and for the purpose substantially as specified.

Third, the combination of the core socket with the revolving disk which receives the core and the mould, when the disk contains a provision for enabling the socket or pipe or both to be freed from the core, substantially as described.

No. 1,898.—JOHN F. JONES, Rochester, N. Y.—*Machine for Making Paper and Paper Boards.*—Patented October 13, 1863; reissued March 7, 1865.

Claim.—First, forming paper or paper board of any thickness, in a continuous sheet, by adding to the web a succession of any number of layers of pulp, each succeeding layer being added and pressed to the preceding one in the aggregate or compound web before leaving its felt, and the compound web being subjected to pressure after each addition of a layer of pulp, substantially as and for the purposes herein specified.

Second, forming paper board of a continuous or indefinite length, by means of any required number of separate paper-making machines, arranged as a whole or as a combined machine, in such a manner that each separate machine successively deposits a layer or web of its own to form the aggregate layers of the board in the act of formation or passing through the combined machine, substantially as herein set forth.

Third, the combination of a system of cylinder moulds, as herein above specified, and a continuous series of drying cylinders and calendering rolls, in such a manner that the manufacture either of boards of any thickness or of several webs of paper may be carried on by a single continuous process, substantially as herein described.

Fourth, the arrangement of the several spouts G E J, pipes *c m* and *j*, valve *i*2, and self-acting feed gate *d*, in combination with each other and with the several vats, substantially as and for the purpose herein specified.

Fifth, the save-all, composed of a vat, a cylinder mould, a concher, and a scraper, combined and applied in connection with one or more paper-making machines, substantially as herein specified.

Sixth, the combination of press rolls, illustrated by M7 M7 M7, in Fig. 1, to obtain two pressures from three rolls, as herein described.

Seventh, the employment of calender rolls on the top of drying cylinders, substantially as herein described, to equalize the water in the board and make it of uniform dryness as it passes over the dryers, and partially effect the glazing and calendering process while the board is being dried.

Eighth, the cutting apparatus X Z, operated by the means and in the manner herein set forth.

Ninth, the lay box Z Z, constructed and operating in the manner and by the means herein described.

No. 1,899.—H. K. PARSONS, assignee by mesne assignments of JACOB H. MUMMA, Harrisburg, Penn.—*Straw Cutter.*—Patented January 26, 1859; reissued September 6, 1859; again March 29, 1864; reissued March 7, 1865.

Claim.—First, broadly a knife for use in straw cutters so constructed that its cutting edge shall be on a line with its outer surface, instead of its inner surface—said edge being formed by bevelling or grinding the knife from its inner instead of its outer side; and this whether the whole or a portion only of the body of said knife shall form the arc of a circle coincident with the axis around which it revolves in the operation of cutting.

Second, a knife constructed as above described, and having two under bevelled cutting edges, one at its front and the other at its rear edge.

Third. so constructing a knife for straw cutters, whether single or double edged, that its cutting edge shall continue to revolve in the same circle when partially worn or ground away as when new, and thus avoid the necessity of adjusting either the knives, the cylinder, or the cutting box, as herein set forth.

Fourth, the reversible feed gear, in combination with double-edged knives, when arranged to operate as herein set forth.

Fifth, the combination of the rubber springs *e* with the feed rollers H H′, when arranged and operating as herein set forth.

Sixth, operating the roller I, by means of the tappets *g*, as and for the purpose set forth.

No. 1,900.—JOSHUA E. AMBROSE, Middletown, N. Y., assignor to SARAH E. AMBROSE, Passaic, N. J.—*Lamp.*—Patented April 23, 1861; reissued March 14, 1865.

Claim.—First, the use or employment of the water chamber C, communicating through a stoppered opening with the body or fountain A, of the lamp, and arranged to operate substantially as and for the purpose set forth.

Second, the arrangements of the springs *k*, shaft *g*, and wheels *h*, substantially as shown, for elevating and lowering the wick, as described.

Third, in combination with the cone K, the short tube I, for the attachment of movable inner deflecting plates, for the purpose specified.

Fourth, the plate N, constructed as shown, and operating with the outer cone K, for the purpose described.

Fifth, providing the deflecting plates L and M with the flanches, as described, and combining either of them with the wick tube F, for the purpose specified.

Sixth, the use or employment of either of the deflecting plates L and M, having flanches constructed as described, in combination with the wick tube F and tube I, for the purpose set forth.

Seventh, arranging and combining the cone K, cap J, and either of the deflecting plates L and M, so that the base of the flame shall be brought between the two deflectors, for the purpose herein described.

Eighth, making the slots of the deflecting plates L and M, and of the cap J, narrow, for the purpose described.

Ninth, in combination with the wick tube F and cone K, the use or employment of either of the deflecting plates I and M, or cap J, as shown, for the purpose specified.

No. 1,901.—MERRILL A. FURBUSH, Philadelphia, Penn., and GEORGE CROMPTON, Worcester, Mass., assignees of EDWARD W. BROWN, Fall River, Mass.—*Loom.*—Patented July 25, 1854; reissued March 14, 1865.

Claim.—First, the combination of the pattern chain, the pawls, and the reversible tappet shaft, or their equivalents, substantially as described.

Second, the tappet shaft, constructed and operating substantially as herein described, to turn about its axis in either direction, or remain at rest, as desired, for the purpose specified.

Third, the reversible tappet shaft, or its equivalent, in combination with the pawls or their equivalents, constructed and arranged substantially as described and for the purpose specified.

No. 1,902.—WILLIAM G. W. JAEGER, Baltimore, Md.—*Condensing and Separating Oils and Gases.*—Patented June 28, 1859; reissued March 14, 1865.

Claim.—First, in apparatus for condensing oils and other liquids, in combination, an annular condensing chamber, through which the vapors of oils and other liquids are to pass as they come from the retort or still, a condensing surface surrounding such chamber, and a condensing surface surrounded by such chamber.

Second, the combination of a condenser with the conducting pipe *m*, having an inclined

bottom, substantially as described, whether the condenser be arranged within or without a refrigerating surface, or with both such surfaces, in the manner here shown.

Third, a trap at the discharge end of the worm or other pipe of a condensing apparatus, for trapping the uncondensed gases and preventing their escape from the end of the condenser, substantially as above described.

Fourth, placing a pipe or other opening back of the discharging end of the worm or condenser, for the delivery of uncondensed gases from the same, substantially as above described.

Fifth, the combination of a pipe or other opening back of the discharging end of the worm, with a trap, substantially as above described.

Sixth, a fan or other means for creating a suction, in combination with a pipe *x*, opening into the worm or condenser, as shown, for taking off the gas therefrom, substantially as described.

Seventh, interposing a condenser between the retort and condensing worm, to secure the heavy oils before they reach the worm, substantially as described.

Eighth, the use of a fan or equivalent means for relieving the pressure of the vapors in a condensing apparatus and still, and facilitating their movements through such apparatus, substantially as described.

No. 1,903.—F. W. RITTERHOFF and C. A. COLQUITT, New York, N. Y.—*Machine for Cutting Tobacco.*—Patented February 23, 1864; reissued March 14, 1865.

Claim.—First, the lever catch L, applied in combination with the spindle M of the follower O, and with one or more eccentrics G, substantially as and for the purpose set forth.

Second, the adjustable levers H, in combination with the lever catch L, eccentrics G, and followers O, constructed and operating substantially as and for the purpose specified.

Third, the tappets J, in combination with the adjustable levers H, lever catch L, eccentrics G, and follower O, constructed and operating substantially as and for the purpose described.

Fourth, the movable nut P, in combination with the spindle M, constructed and operating in the manner and for the purpose substantially as set forth.

No. 1,904.—JOHN A. CUMMINGS, assignor through mesne assignment to the Dental Vulcanite Company, Boston, Mass.—*Artificial Gums and Palate.*—Patented June 7, 1864; reissued January 10, 1865; again March 21, 1865.

Claim.—The plate of hard rubber or vulcanite, or its equivalent, for holding artificial teeth or teeth and gums, substantially as described.

No. 1,905.—ADOLPH HAMMER, New York, N. Y.—*Brewing.*—Patented August 17, 1858; reissued March 21, 1865.

Claim.—First, the arrangement of a heater C, on the outside of a mash tun and in combination therewith, constructed and operating substantially in the manner and for the purposes set forth.

Second, heating the contents of a mash tun by a current of liquid which is drawn therefrom and returned to it, and while passing from and to the malt has its temperature gradually raised, by means substantially as herein described, or any equivalent means, for the purposes specified.

Third, the arrangement of one or more horizontal perforated partitions B, in the upper part of a mash tun, constructed as herein set forth, or in any other suitable manner, so that the malt is prevented from rising to the surface of the liquid and from coming in contact with the external atmosphere.

Fourth, making the partition B in sections, substantially as and for the purpose set forth.

No. 1,906.—JACOB H. MUMMA, Harrisburg, Penn.—*Straw Cutter.*—Patented November 8, 1859; reissued March 21, 1865.

Claim.—First, the hawk's-bill cutters *a a*, in combination with the cutting bar C of a straw cutter, the whole being arranged and operating substantially as set forth.

Second, the bed of slats *h*, operating for the purpose of feeding the material to the rollers, and of cleaning it from dust and dirt, substantially as set forth.

Third, the ribbed feed rollers, in combination with the cutter and cutter bar C, the whole being arranged substantially as described.

Fourth, the intermediate pinion *e*, carried by a shaft which is adjustable in the head or side plate of the straw cutter, in combination with the wheel E, on the roller shaft, and pinion G, on the cutter shaft, the whole being arranged and operating substantially as described for the purpose specified.

No. 1,907.—DUBOIS D. PARMELEE, New York, N. Y.—*Artificial Leg.*—Patented February 10, 1863; reissued March 21, 1865.

Claim.—First, fastening the bucket of artificial limbs to the stump by means of atmospheric pressure, substantially in the manner specified.

Second, the adjustability, by the means herein described, or by means substantially the same, of the limb with respect to length, as set forth.

Third, forming the articulation or movable connection between two parts of an artificial limb, by means of a clasp linked to or swinging in both, substantially as described.

Fourth, combining with the two parts of an artificial limb an intermediate stop, when the said parts and stop are connected by means of a clasp or the equivalent thereof, linked to and swinging in the three parts, substantially as described.

Fifth, making the opposite ends of the limb at the movable joint of cylindrical form, and holding the same in such relative position as to move upon each other with rolling friction, substantially as set forth.

Sixth, in combination with the last-named device, the double concave sector or artificial knee pan, together with projections or stops on the cylindrical ends of the limbs, as herein shown and described.

Seventh, the movable joint, constructed and arranged as described, in combination with a spring or elastic band, operating in the manner and for the purposes set forth.

Eighth, the combination of the ball and socket with an elastic sleeve, the whole forming a movable joint, substantially as herein set forth.

Ninth, forming the foot of two parts, to wit, a foot piece proper and a toe piece, when the latter is arranged to rock upon the former, and the two held by flexible and elastic straps, in the manner and for the purpose set forth.

Tenth, the divided toe piece, so as to allow of its adapting itself to the inequalities of the ground, substantially as set forth.

Eleventh, the arrangement of the stems or tails projecting from the under side of the toe pieces, in combination with the bands of leather or other suitable material, and with the elastic bands adjustable by a metal clasp or its equivalent, all constructed and operating substantially in the manner and for the purpose described.

No. 1,908.—DUBOIS D. PARMALEE, New York, N. Y.—*Artificial Leg.*—Patented February 10, 1863; reissued March 21, 1865.

Claim.—First, the method of making the bucket of artificial limbs of a plastic substance capable of being subsequently indurated upon a mould or cast of the stump, in the manner and for the purpose set forth.

Second, shaping the interior of buckets when made of a substance rendered plastic by heat, by means of a core which is the fac-simile of the stump, in combination with the requisite degree of heat, substantially in the manner and for the purpose set forth.

Third, the manufacture of artificial limbs with buckets of hard rubber or vulcanite, or its equivalent, for holding the stump, substantially as described.

No. 1,909.—DANIEL E. SOMES, Washington, D. C.—*Construction of Rooms, Cases, &c., for Preserving and Transporting Articles of Food and Other Substances.*—Patented September 15, 1863; antedated July 20, 1862; reissued March 21, 1865.

Claim.—First, a vessel or chamber suitable for transporting or storing articles of food with multiple walls and air spaces.

Second, connecting with a preserving vessel or chamber, such as described, a separate apparatus for cooling the air to be introduced into said chamber or vessel, for the purpose of lowering the temperature and preserving articles therein contained, substantially as set forth.

No. 1,910.—LAWRENCE MYERS, Philadelphia, Penn.—*Railroad Car.*—Patented June 24, 1851; reissued March 21, 1865.

Claim.—First, the combination, substantially as described, of a hollow vessel with flanged wheels or tires adapted to the rails of a railroad, for the purpose specified.

Second, one or more partitions combined with the said hollow vessel, substantially as and for the purpose described.

No. 1,911.—DE WITT C. CUMINGS, Fulton, N. Y.—*Straw Cutter.*—Patented August 7, 1857; reissued November 8, 1857; again reissued March 28, 1865.

Claim.—First, operating the adjustable lower feed roller by means of a spur wheel, hung in a vibrating frame or yoke, the axis of which is connected with the said roller by means of a universal coupling, when said roller is supported on springs so as to be elastic, or yielding, substantially as and for the purpose described.

Second, the employment of a cylinder, provided with a knife or knives, which have an upward cylindrical cut, when the same is arranged with two independent feed rollers, the lower one of which is supported on a spring or springs, substantially as and for the purpose herein described.

No. 1,912.—CHARLES MASON, ROBERT W. FENWICK, and DE WITT C. LAWRENCE, Washington, D. C., assignees by mesne assignment of HARVEY W. SABIN, Canandaigua, N. Y.—*Horse Rake*, (Div. 1.)—Patented December 3, 1851; extended seven years, from December 3, 1864; reissued March 28, 1865.

Claim.—First, an oscillating horse hay rake, which discharges its gathered load by the draught or power of the team, substantially as described.

Second, a wheeled horse hay rake, capable of both discharging its gathered load upon the

ground by the draught o the team, and automatically resetting itself to gather a fresh load, substantially as described.

Third, an oscillating horse rake, (the teeth of which do not rotate with their shaft,) so constructed that its teeth may either be elevated by the draught of the team, or by the attendant, substantially as described.

No. 1,913.—CHARLES MASON, ROBERT W. FENWICK, and DE WITT C. LAWRENCE, Washington, D. C., assignees by mesne assignment of HARVEY W. SABIN, Canandaigua, N. Y.—*Horse Rake*, (Div. 2.)—Patented December 3, 1850; extended seven years, from December 3, 1864; reissued March 28, 1865.

Claim.—First, arranging rake teeth directly on the axle of the carriage wheels, and so that they can articulate upon said axle, for the purpose set forth.

Second, arranging an oscillating bar for raising rake teeth, directly on the axle of the carriage wheels, and so that it can articulate on said axle, for the purpose set forth.

Third, arranging an oscillating bar for exerting pressure upon rake teeth, upon the axle of the carriage wheels, and so that it can articulate on said axle, for the purpose set forth.

Fourth, arranging an oscillating pressure lever, or a coupling lever, on the axle of the carriage wheels, and so that either or both can articulate on said axle, for the purpose set forth.

Fifth, arranging a clearer to rake teeth directly upon the axle of the carriage wheels, said axle extending entirely across the carriage frame, and so that it can articulate or oscillate on said axle, for the purpose set forth.

No. 1,914.—CHARLES MASON, ROBERT W. FENWICK, and DE WITT C. LAWRENCE, Washington, D. C., assignees by mesne assignment of HARVEY W. SABIN, Canandaigua, N. Y.—*Horse Rake*, (Div. 3.—Patented December 3, 1850, and extended seven years from December 3, 1864: reissued March 28, 1865.

Claim.—First, the application of pressure, at the will of the operator, to metallic spring rake teeth, which are so constructed as to have a spring action within themselves from their gathering ends to the point, or forward thereof, where the pressure is applied, to hold them down to their work, substantially as herein described.

Second, the combination of independently articulating rake teeth, which are springs within themselves, and a pressure contrivance, which is under the control of the operator, substantially as and for the purpose herein described.

No. 1,915.—CHARLES MASON, ROBERT W. FENWICK, and DE WITT C. LAWRENCE, Washington, D. C., assignees by mesne assignment of HARVEY W. SABIN, Canandaigua, N. Y.—*Horse Rake*, (Div. 4.)—Patented December 3, 1850; extended seven years from December 4, 1864; reissued March 28, 1865.

Claim.—Arranging rake teeth on articulating, tubular, laterally-bracing, and vertically, supporting eye bearings, so that the attaching end of each tooth shall cross or intersect a vertical plane passing longitudinally through the axis of the bearings, substantially as described.

No. 1,916.—WM. J. CLARK, Southington, Conn.—*Die for Carriage Bolt.*—Patented August 2, 1864; antedated February 2, 1864; reissued March 28, 1865.

Claim.—The combination and use of metallic dies, for the purpose of giving an angular shape or form to a portion of a cylindrical bolt, by compression laterally, leaving the remaining portion of the bolt in its original round form, and which dies also serve the purpose of an anvil, upon which the head of the bolt is formed, by upsetting a projecting portion thereof, substantially as described.

No. 1,917.—WM. J. CLARK, Southington, Conn.—*Bolt.*—Patented August 2, 1864; tedated February 2, 1864; reissued March 28, 1865.

Claim.—A bolt made from a round rod or bar, a portion of which bolt shall be square or angular, and a portion round, as in the rod or bar, and so that the sectional areas of the square and round portions shall be similar, the diameter of the round greater than the distance from face to face of said square portion, and the distance from corner to corner diagonally of the square portion be greater than the diameter of the round, substantially as described.

No. 1,918.—NOAH H. GILLETT, New York, N. Y.—*Rendering Artificial Light the same as Day.*—Patented January 19, 1864; reissued March 28, 1865.

Claim.—Rendering artificial light the same color or effect as daylight, by an intervening glass, of the color specified.

Also, in combination therewith, the employment of a reflector, substantially as specified.

No. 1,919.—R. E. RICHARDSON, assignee by mesne assignments of J. B. GOWDY and J. A. WELSH, Xenia, Ohio.—*Hominy Mill.*—Patented August 11, 1857; reissued March 28, 1865.

Claim.—First, constructing a hominy mill with a series of chambers or compartments, placed one above another, substantially as specified.

Second, in combination with a series of compartments, as described, the central openings for the passage of the grain, substantially as set forth.

Third, the beaters *f*, when arranged to operate in connection with a series of chambers, as herein described.

Fourth, the tubular shaft C, arranged to operate as set forth.

Fifth, the deflecting flanges *e*, or their equivalents, when arranged and operating substantially as herein set forth.

No. 1,920.—WM. W. LYMAN, West Meriden, Conn.—*Fruit Can.*—Patented June 10, 1862; reissued March 28, 1865.

Claim.—First, the combination of the can with a stopper of such size relatively to the neck of the can, as to admit between the neck and stopper an elastic packing ring of the requisite thickness to permit the introduction of a pin at its side, substantially as set forth.

Second, the combination of the said can and the stopper, with a flange, substantially as set forth, to prevent the skewing or displacement of the packing ring, when the stopper is applied to the can.

Third, the combination of the stopper of the jar with a flange situated beneath the position of the packing ring, substantially as set forth.

Fourth, the recess in the flange, to permit the introduction of the pin at the side of the packing ring, which is overlapped by the flange, substantially as set forth.

No. 1,921.—GIDEON PEIRCE, Ercildown, Penn.—*Horse Rake.*—Patented November 29, 1859; reissued March 22, 1864; again reissued March 28, 1865.

Claim.—First, a toothless revolving axle, supporting the main frame, and provided at any point between the ground wheels with a wheel or roller for raising the rake teeth, when used in combination with teeth pivoted in the rear of the said axle, and drawn up by leverage, substantially as herein described.

Second, the vertically adjustable bar G extending partially or wholly across the machine, supported upon guide pins *g g*, and provided with vertical mortises through which the teeth pass, substantially as set forth.

Third, the combination of the rocking frame *d*, the rack *c*, and the lever I, for raising the teeth by the power of the horse, substantially in the manner described.

No. 1,922.—S. W. PINGREE, Lawrence, Mass.—*Process for Extracting Tan Bark.*—Patented March 1, 1864; reissued March 28, 1865.

Claim.—First, the within described process of extracting tan bark, by first swelling the bark with water or weak tan liquor, and heating it with steam, and afterward steeping with cold water or weak tan liquor, substantially in the manner set forth.

Second, introducing steam into the bark contained in a leach, at different points through a pipe D, in the manner and for the purpose substantially as described.

No. 1,923.—OLIVER P. STEVENS, Cleveland, Ohio.—*Hulling and Scouring Machine.*—Patented July 1, 1856; reissued March 28, 1865.

Claim.—First, the use or employment of perforated revolving fans or beaters, for the purpose of hulling or scouring grain, seeds, &c.

Second, lining and arming the fan or beater wheel casing with teeth, substantially as described, for the purposes set forth.

Third, the arrangement of the upper section of the fan or beater wheel casing *c* in relation to the chimney O, in combination with the fans or beaters *f g* and guides *i' i'*, combined as described, and operating in the manner and for the purpose hereinbefore described.

Fourth, the adjustable guides *i' i'*, combined as described, and operating in the manner and for the purpose hereinbefore described.

Fifth, the air passages or chambers B B, arranged in each end and on top of the fan or beater wheel casing, in combination with the vertical trunk B', as herein described, and for the purposes specified.

Sixth, the valve F, operated in the manner described, in combination with the chimney O, for the purpose specified.

Seventh, pulverizing friable substances, by means of revolving beaters surrounded with a casing, substantially as described.

No. 1,924.—THOMAS VARNEY, San Francisco, Cal.—*Amalgamator.*—Patented December 16, 1862; reissued March 28, 1865.

Claim.—The curved plates, constructed substantially in the manner and for the purpose set forth.

No. 1,926.—WM. E. LOCKWOOD, Philadelphia, Penn., assignee by mesne assignments of WALTER HUNT.—*Shirt Collar.*—Patented July 25, 1854; reissued April 4, 1865.

Claim.—So indenting shirt collars made of a fabric composed of paper and muslin, or an equivalent fabric, that the indentations will represent the stitches of an ordinary dressed linen collar.

No. 1,927.—WM. E. LOCKWOOD, Philadelphia, Penn., assignee by mesne assignments of WALTER HUNT.—*Shirt Collar.*—Patented July 25, 1854; reissued April 4, 1865.

Claim.—A shirt collar made of a fabric composed of paper and muslin, or an equivalent fabric, having a smooth white surface coated with transparent varnish, for the purpose specified.

No. 1,928.—ROLLIN WHITE, Springfield, Mass.—*Revolving Fire-arm.*—Patented April 13, 1858; reissued April 4, 1865.

Claim.—In that class of arms consisting of a fixed barrel with a rotating cylinder, having a series of parallel chambers, which are brought in succession in line with the barrel to be fired, making a recess or aperture through the breech and communicating with, but of less area than, the rear end of the chamber, and of a form, substantially as described, suited to and in combination with the hammer or the equivalent thereof, to strike through such recess against the rear end of the cased cartridge which contains the fulminate priming, as set forth.

No. 1,929.—THE TOBACCO PIPE COMPANY, Baltimore, Md., assignees by mesne assignment of ANDREW J. BOWEN.—*Tobacco Pipe.*—Patented June 10, 1862; reissued April 4, 1865.

Claim.—First, the two tubes or channels *a* and *b* in the stem, in combination with the bowl *c* and cup or receptacle *d*, as herein set forth.

Second, the device by which the cup or receptacle *d* is attached to the bowl *c*—that is, the male screw in the latter, and the female screw in the former, or their equivalents—in combination with the channels *a* and *b*, bowl *c*, and cup *d*, substantially as shown and described, and for the purposes set forth.

No. 1,930.—R. G. FAIRBANKS, New York, N. Y., assignee by mesne assignment of W. A. AKINS and J. B. FELTHOUSEN.—*Sewing Machine.*—Patented August 5, 1851; reissued January 20, 1863; reissued April 11, 1865.

Claim.—First, the combination of the needle bar of a sewing machine with a spring to draw up the needle after the stitch is formed, for the purpose of tightening the stitches, substantially as set forth.

Second, the combination of the stitch-forming mechanism and spool spindle with an intermittent thread-griping mechanism, located between the spool spindle and the place where the stitch is formed, substantially as set forth.

Third, the combination of the needle bar and shuttle driver of a sewing machine with mechanism for operating them in such manner that the shuttle is caused to enter between the needle and its thread, while the needle is arrested after having made a short retrograde movement.

Fourth, the combination in a sewing machine of the stitch-forming mechanism with a cylindrical rest, for the purpose of supporting articles of curved or tubular form, substantially as set forth.

Fifth, the combination of a toothed-feeding instrument with reversible driving mechanism, substantially as set forth.

No. 1,931.—JOHN G. LEFFINGWELL, Newark, N. J.—*Gas Cock.*—Patented February 19, 1861; reissued April 11, 1865.

Claim.—First, a set-screw, in combination with a lever and gas cock, to prevent the flame from being extinguished, substantially as described.

Second, a set-screw, in combination with a lever and gas cock, to prevent too great a flow of gas to the burner, substantially as set forth.

No. 1,932.—ISAAC E. PALMER, Middletown, Conn.—*Tackle Block.*—Patented November 1, 1859; reissued September 8, 1863; again reissued April 11, 1865.

Claim.—So constructing a tackle block and pulley that the rope or fall, when desired, may be clamped between a fixed portion of the block and a portion of the pulley, substantially as herein described, by simply leading it in a direction oblique (lateral) to the plane of revolution of the pulley without tying, or the use of dogs, or movable stops, or any other means of fastening.

No. 1,933.—JOSEPH RECKENDORFER, assignor to JOSEPH ROSENTHAL, New York, N.Y.—*Design for a Trade Mark for Lead Pencils.*—Patented April 3, 1860; reissued April 11, 1865.

Claim.—The design for a new trade mark label for lead pencils composed of an eagle in flight, with the words "Eagle Pencils," substantially as and for the purpose described.

No. 1,934.—SELDEN A. BAILEY, SIMEON S. COOK, and BENEDICK M. COOK, Woonsocket, R. I., assignees by mesne assignments of JOHN ALLENDER, New London, Conn.—*Wringing Machine.*—Patented January 11, 1859; reissued June 28, 1864, and November 8, 1864; again reissued April 18, 1865.

Claim.—First, a roller made of a spirally-coiled spring, arranged on a shaft or roller made smaller at the centre than at the ends, as and for the purposes specified.

Second, a roller so constructed as to yield more at its centre than at or near its ends, covered with vulcanized rubber or any other elastic compounds impervious to water, substantially as and for the purpose set forth.

Third, cog wheels, in combination with rollers of vulcanized rubber, or any other elastic substance, or compound impervious to water, for the purpose set forth.

Fourth, rollers made of or covered with vulcanized rubber, or any other elastic substance or compound impervious to water, when used in combination with cog wheels, and a spring or springs around the shaft of the roller, for the purpose set forth.

Fifth, rollers for washing or wringing machines made of or covered with vulcanized rubber or any other elastic substance or compound impervious to water, when used in combination with adjusting spring or springs.

Sixth, rollers for washing or wringing machines, made of or covered with vulcanized rubber or any other elastic substance or compound impervious to water, when used in combination with adjustable spring or springs, and screw or screws, to adjust the pressure to the springs and rollers.

No. 1,935.—GEORGE I. BERGEN, Galesburg, Ill.—*Corn Planter.*—Patented December 1, 1863; reissued April 18, 1865.

Claim.—First, the combination in a seed planter of a front frame, carrying the seeding mechanism and a drop-man's seat, and a rear frame carrying a coupling windlass and a driver's seat, with the slotted coupling, substantially as described, for the purposes set forth.

Second, balancing the front and rear frames of a seed planter by a windlass, substantially in the manner and for the purposes set forth.

Third, the windlass C, to balance the front and rear frames, or control the depth of planting in a seeding machine, or to regulate the weight of the tongue upon the team, as set forth.

Fourth, the combination of the chain, fastened to either frame, with the windlass, and running spirally around it, to vary the leverage, substantially as described and set forth.

Fifth, revolving seat for the drop-man, combined with a seed planter, constructed and operating as and for the purpose described.

Sixth, the combination of the drop-man's seat with the driver's seat and with the windlass, substantially as described and for the purposes set forth.

Seventh, the indicating spring, with its ribs constructed and operating substantially as described.

Eighth, the slotted joint connecting the front and rear frames when the draught of the rear frame is effected by this coupling alone, and so as to allow a vertical movement of the front or rear frame, as and for the purposes set forth.

Ninth, locating the drop-man's seat in the rear of the heel of the runners, for the purpose of balancing the weight of the front part of the frame and the tongue, as and for the purpose set forth.

Tenth, operating the seed slides by applying the power direct to the handle that moves the slide, without the use or intervention of a lever, as set forth.

No. 1,936.—WM. H. ELLIOT, Plattsburg, N. Y.—*Revolving Fire-arm.*—Patented October 1, 1861; reissued April 18, 1865.

Claim.—The combination of a chamber or chambers, which are left open at their rear end, for the purpose of being charged thereat with a hammer hung or pivoted forward of the rear end of said chamber or chambers, substantially as set forth.

No. 1,937.—WM. H. ELLIOT, Plattsburg, N. Y.—*Revolving Fire-arm.*—Patented October 1, 1861; reissued April 18, 1865.

Claim.—Resisting the recoil of a cartridge case by means of a hammer, which is pivoted underneath and forward of the rear end of a chamber or chambers, substantially as herein set forth.

No. 1,938.—WM. H. ELLIOT, Plattsburg, N. Y.—*Revolving Fire-arm.*—Patented October 1, 1861; reissued April 18, 1865.

Claim.—The combination of a chamber or chambers, which are bored through at their rear end and left open for the purpose of being charged thereat with a lock frame, which is extended forward of the rear end of said chambers, and a hammer pivoted or hung in the part of said frame so extended forward, substantially as and for the purpose set forth.

No. 1,939.—THOMAS F. HISERT, Greenville, N. Y., assignee of THOMAS T. JARRETT, Horsham, Penn.—*Hay-elevating Fork.*—Patented May 30, 1854; reissued April 18, 1865.

Claim.—First, the employment or use of a weight on the cord attached to the catch, which shall operate to discharge the hay from the fork at any desired height, substantially as and in the manner described.

Second, the combination of one or more pulleys with a hay-elevating fork, for the purpose described.

Third, the pulley J at the back part of the head, operating as and for the purpose described.

Fourth, securing the handle or bail to the head by means of loop eyes, which are secured in the head and project therefrom.

Fifth, securing the tongue or brace lever to the handle or bail by means of a spring catch attached to the said handle or bail, for the purpose described.

Sixth, a spring catch turning upon a pin or bearing, the functions of which are to keep the tines or body of the fork in position to retain the load, and to discharge it whenever desired.

Seventh, in hay-elevating forks, the combination of the tines, the wooden head, the tongue or brace lever, and the spring catch.

Eighth, the combination of a spring catch with a rigid tongue or brace lever, extending from the piece which receives the tines, for the purpose described.

No. 1,940.—HAMILTON D. LOCKWOOD, Charlestown, Mass., assignee of C. H. and H. E. DAVIDSON.—*Enema Syringe.*—Patented March 31, 1857; reissued April 25, 1865.

Claim.—A syringe having an elastic bulb or chamber, flexible tubes, and a suitable valvular arrangement, when organized so as to operate substantially as described.

No. 1,941.—FREDERICK C. PAYNE, New York, N. Y.—*Folding-bed Bottom.*—Patented March 29, 1864; reissued April 25, 1865.

Claim.—First, the connection of the two parts A A′ of the frame or box of a folding-bed bottom or mattress on each side thereof, by means of a double hinge composed of a plate *d* pivoted to the said parts A A′, at two points, at such a distance apart as to make room for the stuffing between the said parts when folded parallel with each other, substantially as herein described.

Second, the blocks D D in combination with the plates *d* and the recesses *i i*, in the connected ends of the two portions A A′ of the box or frame, substantially as and for the purpose specified.

No. 1,942.—STEPHEN WILCOX, Jr., Westerly, R. I.—*Hot-air Engine.*—Patented November 20, 1860; reissued April 25, 1865.

Claim.—First, in combination with an air engine in which the air and gases are heated by combustion within the cylinder, or in a chamber leading thereto, the use of a regenerator F, substantially as and for the purposes herein described.

Second, gradually supplying the combustible gas or vapor for a gas engine, operating substantially as herein described, as it is consumed and in the proper quantity for each stroke, by means of the pump G, or its equivalent, for the purpose set forth.

Third, combining a quantity of cooler air with the products of combustion by the combined action of piston *b* and valve M, or their equivalents, substantially as described, for the purpose of preserving a safe degree of heat within the cylinders, as above set forth.

Fourth, the supplemental valve *m*, arranged and operating substantially as and for the purpose herein specified.

Fifth, the arrangement of the heated evaporator N and cooler reservoir O in combination with an engine operating with the direct pressure of the products of combustion, with or without the pump G, substantially in the manner and for the purpose herein set forth.

Sixth, placing a piece of fire brick L, or equivalent substance, in close proximity to the burner *j k*, for the purpose above specified.

Seventh, in an engine operated with the direct pressure of the products of combustion, and having the working cylinder and the combustion chamber arranged upon a single portable base *x*, the arrangement of the furnace casing and the working cylinder in the additional casing S, common to both, with air or other non-conducting substance filling the intervening space, substantially as and for the purpose herein set forth.

Eighth, in such engines, in combination with provisions for reducing the temperature of he products of combustion before their admission to the cylinder, as shown, the employment of the thick non-conducting piston *a* working in a vertical cylinder, and having its packing widely removed at all times from the heated parts of the apparatus, all arranged substantially as and for the purpose herein set forth.

No. 1,943.—G. W. HUGHES, Bloomington, Ill.—*Magazine or Self-loading Fire-arm.*—Patented November 15, 1864; reissued May 2, 1865.

Claim.—First, pivoting the rolling breech piece C upon the circular head of the lever bar, as shown and described.

Second, the sliding breech block D when constructed with the flange, having an opening for the hammer to strike through, and operating in connection with block *e*, as herein set forth.

Third, pivoting the lever guard *b*, breech piece C, hammer E, and the independent cocking device, all upon a single bolt, as substantially shown and described.

Fourth, the retractors *g g* when constructed and operating as set forth.

Fifth, the use in a magazine gun of a chain, constructed and operating substantially as set forth.

Sixth, the plate G, or its equivalent, constructed and operating as and for the purpose herein set forth.

Seventh, the independent cocking device, when constructed and operating as shown and described.

Eighth, dividing the rear portion of the stock longitudinally and horizontally, for the purpose of constructing a magazine therein, and obtaining access to the same, substantially as and for the purpose herein set forth.

No. 1,944.—MANLEY PADDLE WHEEL COMPANY, New York, N. Y.—*Feathering Paddle Wheel.*—Patented June 24, 1862; reissued May 2, 1865.

Claim.—The combination and arrangement of the paddle of a feathering paddle wheel, with its rock shaft, and the framework of the paddle wheel, in such manner that the centre of the paddle is situated in such a position that the pressure at the end of the paddle adjacent to the feathering mechanism is divided equally, or substantially so, between the adjacent side frame of the paddle wheel and the frame of the feathering mechanism, substantially as set forth.

No. 1,945.—JOHN H. SCHENCK, St. Louis, Mo.—*Mode of Preparing Concentrated Food.*—Patented November 22, 1864; antedated July 15, 1863; reissued May 2, 1865.

Claim.—First, the process herein described of preparing, cooking, desiccating, and pressing concentrated food, substantially as set forth.

Second, as a new article of food, the compound herein described, namely, a compound of corn, oats, and barley, when cooked by steam or otherwise, desiccated, and pressed or unpressed.

No. 1,946.—WM. TRAPP, Jr., Elmira, N. Y.—*Barrel Machinery.*—Patented October 1, 1845; reissued March 10, 1849, and extended; again reissued May 2, 1865.

Claim.—First, the combination of the slide-rest *k*, guided in the manner set forth with the tool L, for turning off the cask, constructed and arranged in the manner set forth.

Second, the combination of the cylinder E, open at both ends, so that both ends of the cask may be worked off without changing with the ring chucks O for fastening the cask into the cylinder, and with the tools herein described for chamfering and howelling.

Third, the crozing tool V, with the changeable face plate *w*, as herein set forth.

Fourth, the combination of the stock *l*, cutter *l'*, made adjustable, and the gauge plate 12, constituting the tool for turning and smoothing the outside of the cask, as above described and represented.

Fifth, the peculiar construction of the tool for howelling the cask, substantially as dedescribed.

Sixth, the peculiar construction of the tool for chamfering the end of the barrel, as above described.

No. 1,947.—WILLIAM TRAPP, Jr., Elmira, N. Y.—*Barrel Machinery.*—Patented October 1, 1845; reissued March 10, 1849, and extended; again reissued May 2, 1865.

Claim.—First, in barrel machinery, jointing the edges of staves, substantially in the manner above described.

Second, in machinery for bevelling the edges of staves of varying widths while bent into the proper bilge form, providing for retaining the plane of cut in the same position relative to the stave that a radial plane passing through the imaginary axis of the cask and the bevelled edge of the stave will occupy when the cask is completed, substantially in the manner described.

Third, in barrel machinery, the jointing of a stave of the proper bevel and shape by a straight jointer, while the stave is so bent that the joint, when it shall be placed in the cask, will be in a radial plane passing through the axis of the cask, substantially in the manner above shown.

No. 1,948.—ETHAN ALLEN, Worcester, Mass.—*Machine for Making Cartridge Cases.*—Patented February 14, 1860; reissued May 9, 1865.

Claim.—First, the mandrel which carries the cartridge shell, in combination with the die D, which admits the same, and against which the closed end of the cartridge shell is headed, substantially as described.

Second, the die D, constructed and operating for the heading of cartridge shells, substantially as described.

No. 1,949.—ETHAN ALLEN, Worcester, Mass.—No. 2. *Machine for Making Cartridge Cases.*—Patented February 14, 1860; reissued May 9, 1865.

Claim.—First, the sliding mandrel, which advances and supports the shell, in combination with the revolving chuck, which grips and revolves the shell against the action of the cutting tool, substantially as described.

Second, the combination of the sliding and revolving mandrel C, the revolving chuck S, and the automatic tool Q, substantially as described.

Third, operating the cutting tool by the supplemental motion of the mandrel carrier or slide L, as described.

No. 1,950.—GEORGE CHATTERTON, Providence, R. I., assignee of THOMAS MAYOR, Pawtucket, R. I.—*Roving Frame.*—Reissued May 9, 1865.

Claim.—The construction and mode of arranging the bolster, with the spindle and the transverse rail, or its equivalent, substantially as described, for the purpose specified.

No. 1,951.—R. S. FOREMAN, Morrison, Ill.—*Method of Preserving Wood Railroad Ties, &c.*—Patented June 21, 1864; reissued May 9, 1865.

Claim.—The application to all wood materials liable to rot or take fire, be eaten with grubs or insects, of a composition made of the materials and applied as and for the purposes herein set forth.

No. 1,952.—WILLIAM CLEVELAND HICKS, New York, N. Y.—*Breech-loading Fire-arm.*—Patented March 10, 1857; reissued May 9, 1865.

Claim.—First, the combination in a breech-loading fire-arm, with an internally flanged cartridge or cartridge case, of a hooked or barbed instrument, under such an arrangement in relation to an outside lever operating the breech as that by opening the breech the cartridge or its case is withdrawn from the barrel.

Second, the employment in breech-loading fire-arms of a breech-piece provided with a hooked prong or prongs, when said prongs are constructed as herein described, to perform the functions of picking the cartridge and striking the percussion primer, and of grasping and extracting the cartridge from the barrel, as set forth.

Third, the employment in breech-loading fire-arms, in which primed cartridges are used and exploded by means of the breech pin, of two or more prongs to insure the explosion of the charge, substantially as set forth.

No. 1,953.—HUMPHREY HOLDEN, New Haven, Conn.—*Machine for Making Cement Pipe.*—Patented May 9, 1865.

Claim.—The employment or use in a machine for making cement pipe of a series of rolls, or their equivalents, arranged in connection with a mould—that is, a case and core—in such a manner that the cement will be gradually compressed or compacted in the mould, from the bottom toward the upper end of the latter, substantially as and for the purpose herein set forth.

No. 1,954.—IRA JAMES, Mattoon, Ill.—*Hay and Cotton Press.*—Patented February 16, 1864; reissued May 9, 1865.

Claim.—First, the provision in a vertically acting beater hay press of sleeve P, ratchet and brake movements W and W X, and pulley and toggle movements *a* S T, the whole being combined and operating substantially as set forth.

Second, the employment or use of clamps so constructed and arranged that the hay, after being compressed, may be removed from the press and retained in its compacted or compressed state, and the bale bound or hooped outside of the press, substantially as set forth.

No. 1,955.—SIMON H. KENNEDY and HENRY L. ELDER, Philadelphia, Penn., assignees of WM. FIELDS and ISRAEL TOWNSEND, Wilmington, Del.—*Tanning Hides and Skins.*—Patented June 7, 1864; reissued January 10, 1865; again reissued May 9, 1865.

Claim.—First, the within described method of treating hides preparatory or during the process of tanning, by exposing them to the action of liquor of any described description, by the aid of an air-tight vat, and of gaseous fluid under pressure introduced into said vat, so as to agitate the liquor and cause the same to act on the hides and skins with increased effect.

Second, the employment or use, for the purpose of tanning hides or skins, of a current of air or other gas applied to said hides or skins under a pressure of from five to twenty or more pounds to the square inch, acting in combination with the ordinary or other tanning liquors, substantially as and for the purpose set forth.

Third, the arrangement of one or more pipes extending to the interior of an air-tight vat, in combination with said vat, with a pump and loaded valve, constructed and operating substantially as and for the purpose described.

No. 1,956.—J. A. SAFFORD, Boston, Mass.—*Leather-splitting Machine.*—Patented February 2, 1864; reissued May 9, 1865.

Claim.—First, the spring C, constructed and operating substantially as set forth.

Second, the spring C in combination with the feed roll B, the whole being constructed and operating substantially as and for the purpose described.

Third, the knife *a* constructed with two bevels, and having the cutting edge beyond the centre of the thickness of the knife, as set forth, when combined with the feed roll B, substantially as described.

Fourth, making the under bevel of the knife *a* concave, to conform generally with the convex surface of the feed roll B, substantially as and for the purpose described.

No. 1,957.—NATHAN M. CONDICT and DUDLEY S. STEELE, Jersey City, N. J., assignees by mesne assignments of WM. J. STEVENS, New York, N. Y.—*Means of Operating the Valves of Steam Engines.*—Patented July 23, 1861; reissued May 16, 1865.

Blaim.—First, when a main and secondary slide valve are employed on seats arranged side by side in the same steam chest and in the same plane, or parallel planes, as and for the purpose specified, so combining the said valves with each other and with mechanism through which they are both in part actuated by the main piston rod of the engine that there is a lost motion between the said valves, substantially as and for the purpose herein set forth.

Second, the direct connection of the said main and secondary valves with the same operating rod F, having attached to it the pistons I I′, for completing the movement of the main valve, and having a lost motion with respect to the main valve, but none with respect to the secondary valve, substantially as herein described.

Third, the crank K and forked lever N, applied substantially as herein described, in combination with each other and with the valve rod and main piston rod, substantially as and for the purpose herein set forth.

No. 1,958.—MANLEY HOWE and HENRY R. STEVENS, Boston, Mass.—*Manufacture of Dye Colors.*—Patented October 13, 1863; reissued May 16, 1865.

Claim.—A composition of coloring matter in powder with the requisite kind and quantity of mordant in powder, the whole thoroughly mixed together, as hereinbefore set forth.

Also, coloring matter in powder mixed with metallic solution, dried off and reduced to powder, as hereinbefore set forth.

Also, coloring matter in powder containing the requisite kind and quantity of mordant, the whole reduced from a pasty state of powder, as hereinbefore set forth; each constituting a direct and substantive dye and a new article of manufacture.

Also, the above-described compositions of coloring matters and mordants adapted to dye silk, woollen, or cotton, or fabrics composed of any or all of the said materials.

No. 1,959.—MANLEY HOWE and HENRY R. STEVENS, Boston, Mass.—*Manufacture of Dye Colors.*—Patented October 13, 1863; reissued May 16, 1865.

Claim.—First, mixing with dye color in powder, mordants, reduced to powder, to produce a color substantially as set forth.

Second, mixing dye colors and mordants when the latter is a solution of metal, and then drying and reducing the same to powder, substantially as set forth.

Third, the combination with dye colors and mordants, when in a moist or pasty state, of stock or other similar absorbent, substantially and for the purpose as hereinbefore set forth.

Fourth, the use of starch for treating the mixture thoroughly dry, substantially and for the purpose as hereinbefore set forth.

Fifth, reducing coloring extracts to powder, substantially as hereinbefore set forth, and mixing them in powder with other coloring matter in powder.

Sixth, mixing them in powder with other coloring matter and mordants in powder, substantially and for the purpose as hereinbefore set forth.

No. 1,960.—BENJ. M. NYCE, Cleveland, Ohio.—*Preserving Fruits and other Perishable Substances.*—Patented November 2, 1858; reissued October 23, 1860; again reissued May 16, 1865.

Claim.—First, the insulated and cooled preserving chamber J, provided with absorbents of moisture, as set forth, either with or without the agitator K.

Second, the above-described outside air-tight casings of walls, when used in combination with a chamber chilled by ice on a metallic floor on its upper part, with absorbents of moisture within said chamber.

Third, the method of preserving fruit in a chamber whose walls, doors, and floors are practically air-tight, and so proof against the ingress of heat and moisture as to maintain, by the aid of ice on metal floor above, a uniform temperature from 34° to 35° F. throughout the year, and by the use of absorbents within said chamber producing any desired degree of dryness.

No. 1,961.—WORDEN P. PENN, Belleville, Ill.—*Harvester.*—Patented September 10, 1861; reissued May 16, 1865.

Claim.—First, the combination of the jointed frame by which the sickle may be elevated, with the means for counteracting the angularity that would otherwise affect the operation of the sickle, and with a finger bar, which may be either flexible or rigid, the whole constructed and arranged in the manner described.

Second, connecting the finger bar to the frame by means of the hinge joint and the upright in the manner described, so that the connection with the said frame may be made either flexible or rigid, as specified.

Third, the arrangement of the transverse rocking beam *k* on the under side of frame A in combination with the finger bar *g*, substantially in the manner and for the purpose described.

Fourth, arranging the transverse rocking beam *k* on the under side of the frame A′, and pivoting the finger beam *g* to it thus arranged, substantially in the manner and for the purpose herein described.

Fifth, applying the lever *m* to the machine in such manner that it will serve the double purpose of elevating the cutting apparatus, and also of tilting it forward or backward, substantially as described.

Sixth, the arrangement of the two caster wheels *o t*, frame A A′, jointed upon the axle, lever *m*, serving the double purpose described, and finger beam *q*, and rocking beam *k*, in the manner and for the purpose herein described.

Seventh, arranging the spur wheel B, sliding pinion wheel B′, clutch *j*, lever W, lever clutch wheel C, crank pinion D with the frame A A′, rocking beam *k*, and jointed finger beam *q*, all in the manner and for the purpose described.

Eighth, the draught pole C in combination with frame A, the rear of which frame is pivoted to the axletree *a*, and with frame A′ also pivoted to the axletree *a*, and with the gearing and cutting apparatus, all constructed and applied substantially in the manner and for the purpose described.

No. 1,962.—ELMER TOWNSEND, Boston, Mass., assignee of SIDNEY A. TURNER, West borough, Mass.—*Sewing Machine.*—Patented August 22, 1854; reissued March 25, 1856; again reissued May 16, 1865.

Claim.—The combination in a sewing machine of an automatic feed, a work-supporting surface, and a needle, when the same is arranged to operate from below the table or work-supporting surface, and without the co-operation of a second thread (or a device carrying a second thread) above the table or work-supporting surface.

Also, the combination together of a needle and awl, when the same enter the work in opposite directions, and each withdraws in a direction opposite that from which it entered.

Also, the combination in a sewing mechanism of an automatic needle turner and automatic feed, by which the loop is kept in proper position with respect to the needle as the work progresses.

Also, the method of effecting the rotation of the hook, substantially as specified.

No. 1,963.—ROBERT D. BROWN, Covington, Ind.—*Raking Attachment to Harvesters.*—Patented April 7, 1863; reissued February 21, 1865; again reissued May 23, 1865.

Claim.—First, the continuously revolving rake B, carried forward over the platform and back beneath the same by means of driving chains, belts, or their equivalents, and elevated to its working position during its forward motion and retracted in passing beneath the platform by means of a crank arm D or its equivalent, working in a slot, for the purposes specified.

Second, governing the position of the rake teeth by the partial rotation of the rake head, which travels parallel with the cutter bar, by means of an endless belt or chain, when the said rotation is effected by the traversing of a wrist attached to the rake head in a slot of the required configuration.

Third, the intermittent cradle F *f*, operated as described, in combination with the continuously revolving rake B, for the purpose set forth.

No. 1,964.—EDWIN JONES, Cleveland, Ohio, assignor of CHARLES TINKER and J. A. SPRAGUE, Mantua, Ohio.—*Harvester.*—Patented August 4, 1857; reissued May 23, 1865.

Claim.—First, arranging the finger bar or beam in a mowing machine upon the right-hand side of the frame which supports the driver and gearing, and on a line, or nearly so, with the front of said frame, in combination with supporting it in such position so that the entire finger beam, or either end thereof, independent of the other end, and without twisting or straining the joints or connections, can freely rise and fall to conform to the inequalities of the ground, independent of the up and down motions of the frame, substantially as described.

Second, the combination with the main frame of a mowing machine of a narrow finger beam, for sustaining a reciprocating cutter bar and cutters, so hinged and supported that the entire bar, or either end thereof, independent of the other end, and without twisting or straining the joints or connections, can freely rise and fall to conform to the inequalities of the ground independent of the up and down motions of the main frame, while the front of the bar and points of the guards are also free to rock or roll up and then back again to the same horizontal plane, upon an axis of motion near the back of the finger beam, and independent of the up and down motions of the hinged support from which the finger beam derives its progressive motion.

Third, the combination in a mowing machine with the shoe which supports the heel of a hinged or floating finger beam free to rise bodily or at either end as described, of a knuckle or stop, separate from the hinge, to prevent downward deflection when the beam is raised, substantially as described.

Fourth, the combination with the main frame of a mowing machine having a hinged floating finger beam, free to rise entire or at either end, as described, independent of the up and down motions of the main frame, so combined therewith as that the driver, from his seat on the machine, can elevate at pleasure the finger beam and cutters in nearly a horizontal position to pass obstructions.

Fifth, the combination in a mowing machine, with a floating hinged finger beam, free to rise bodily or at either end, as described, independent of the up and down motions of the main frame, of mechanism so constructed and arranged that the driver, from his seat on the machine, can elevate not only the entire beam, but either end thereof at pleasure, to pass obstructions.

Sixth, the combination with a hinged finger beam in a mowing machine of a hinged lever and small ground wheel, in such a manner that the joint or outer end of the finger beam can be elevated above the heel to pass obstructions, and the weight thereof thrown upon the small wheel which serves as the fulcrum of the lifting lever.

Seventh, hinging the shoe to which the heel of the finger beam is attached in a mowing machine, to a support which extends back and divides and is in turn hinged to the frame which supported the gearing by its two forks or branches, whereby said hinged support is rendered more firm and secure.

Eighth, the combination of lever X, wheel Y, and rod *a* with hinged lever Z′, when applied to a hinged floating finger beam, substantially as and for the purposes set forth.

Ninth, the combination of the main frame A, hinged floating finger beam, draught tongue and wheels B and O, substantially as described.

Tenth, the combination of lever X, wheel Y, and rod *b* with hinged lever Z, when applied to a hinged floating finger beam, substantially as and for the purposes set forth.

Eleventh, the arrangement of the pendant K with the pitmen I and L, as and for the purposes shown and described.

Twelfth, the combination and arrangement of the gears C D D′ and G G′, substantially as set forth.

No. 1,965.—EDWARD STABLER, Sandy Springs, Md.—*Magazine Fire-arm.*—Patented March 14, 1865; reissued May 23, 1865.

Claim.—First, limiting or arresting the movement of the carrier block, in the class of fire-arms herein described, at any desired point, for the purpose of converting the arm from a repeater into a single loader, substantially as described.

Second, the stop *b*, or its equivalent, in combination with the rotating carrier block of a magazine gun, operating as and for the purposes herein set forth.

No. 1,966.—ROBERT THOMAS, Buffalo, N. Y.—*Ship Knee.*—Patented July 19, 1864; reissued May 23, 1865.

Claim.—A ship knee, made partly of wood (as represented by the chuck H) and partly of iron, (as represented by the iron plate piece G,) for the purposes and substantially as set forth.

No. 1,967.—CYRENUS WHEELER, Jr., Poplar Ridge, N. Y., assignee by mesne assignment of E. B. FORBUSH.—*Harvester.*—Patented April 17, 1855; reissued April 26, 1859; again reissued May 23, 1865.

Claim.—First, in a harvesting machine where the cutting apparatus is placed opposite or nearly opposite the centre of the driving wheel, so constructing the main frame that the rear cross timber shall project inwardly at an angle towards the centre line of the machine, substantially as represented by the cross timber A3.

Second, a gear frame C, having suitable bearings formed therewith for supporting the crank and bevel wheel shafts with the gearing mounted thereon in a compact working position, substantially as described.

Third, a gear key F, in combination with the gearing shaft D2, constructed and used substantially as described.

No. 1,968.—CYRENUS WHEELER, Jr., Poplar Ridge, N. Y., assignee by mesne assignment of E. B. FORBUSH.—*Harvester.*—Patented April 17, 1855; reissued April 26, 1859; again reissued May 23, 1865.

Claim.—A hinged supporting piece H, having sockets H′ for med therein forholding divergent fingers, thereby forming a skeleton track clearer, substantially as described.

No. 1,969.—CYRENUS WHEELER, Jr., Poplar Ridge, N. Y., assignee by mesne assignment of E. B. FORBUSH.—*Harvester.*—Patented April 17, 1855; reissued April 26, 1859; again reissued May 23, 1865.

Claim.—In combination with a cutting apparatus placed in rear of a line drawn through the front of a driving wheel, and a grain platform having a side delivery, a seat for the raker, supported upon or by the main frame, and located behind the line of the cutters and at the side of the grain platform, and so arranged that the raker may sit facing the falling grain and deliver the grain at the side of the platform in the rear of the main frame, substantially as set forth.

No. 1,970.—CYRENUS WHEELER, Jr., Poplar Ridge, N. Y., assignee by mesne assignment of E. B. FORBUSH.—*Harvester.*—Patented April 17, 1855; reissued April 26, 1859; again reissued May 23, 1865.

Claim.—First, providing and using a strengthening bar in the construction of a removable grain platform, so as to give additional strength and stiffness to the platform, for the purposes and substantially as described.

Second, the combination of a removable grain platform with a short finger bar and main frame of a mowing machine, substantially as described, for the purpose of converting a mowing machine into a reaping machine, without change of finger bar or cutters, the combi-

nation and connection being such that the strength of the grain platform is united with the strength of the finger bar to prevent the platform or finger bar from materially bending or springing when the machine is used for reaping grain, substantially as described.

No. 1,971.—CYRENUS WHEELER, Jr., Poplar Ridge, N. Y., assignee by mesne assignment of E. B. FORBUSH.—*Harvester.*—Patented April 17, 1852; reissued April 26, 1859; again reissued May 23, 1865.

Claim.—First, forming a recess in the outside shoe in rear of the cutters, substantially as shown at K, and for the purpose set forth.

Second, the locks or catches Z Z′, formed in the clamp, for the purposes set forth.

No. 1,972.—CYRENUS WHEELER, Jr., Poplar Ridge, N. Y., assignee by mesne assignment of E. B. FORBUSH.—*Harvester.*—Patented July 20, 1855; reissued July 8, 1856, April 19, 1859, and again May 23, 1865.

Claim.—First, so connecting the cutting apparatus, having a shore and separate finger bar, to the main frame of the machine that it may be adjusted to different heights for reaping, or lowered to the ground for mowing, without changing the position of the main frame, substantially as described.

Second, connecting the finger bar to the grain side of the main frame and supporting it by one end only, by means of an adjustable device and the inwardly projecting ends of the cross pieces of the main frame, substantially as set forth.

Third, the slotted frames K K and locking bolts *i i*, applied and used for the purpose and substantially as set forth.

No. 1,973.—CYRENUS WHEELER, Jr., Poplar Ridge, N. Y., assignee by mesne assignment of E. B. FORBUSH.—*Harvester.*—Patented July 20, 1852; reissued July 8, 1856; reissued April 19, 1859; and again reissued May 23, 1865.

Claim.—First, making the outer and inner shoes broader in front of the finger bar as shown at J and *m‴*, for the purpose of bracing the guard fingers laterally.

Second, so constructing skeleton guard fingers and arranging them on the finger bar that they will mutually brace and support each other forward of the finger bar, substantially as set forth.

Third, the bearing piece *z*, placed between the outer shoe and the guard finger for the support of the outer end of the cutter bar, substantially as described.

No. 1,974.—CYRENUS WHEELER, Jr., Poplar Ridge, N. Y., assignee by mesne assignment of E. B. FORBUSH.—*Harvester.*—Patented July 20, 1852; reissued July 8, 1856; reissued April 19, 1859; and again reissued May 23, 1865.

Claim.—In combination with a short finger bar, and a shoe by which it is connected to the main frame of the machine and a cutting apparatus located in rear of a line drawn through the front of the driving wheel, a quadrant-shaped platform so arranged that the cut grain may be delivered therefrom at the side of the platform and in rear of the main frame, substantially as set forth.

No. 1,975.—CYRENUS WHEELER, Jr., Poplar Ridge, N. Y., assignee by mesne assignment of E. B. FORBUSH.—*Harvester.*—Patented July 20, 1852; reissued July 8, 1856; reissued April 19, 1859; and again reissued May 23, 1865.

Claim.—First, in combination with a cutting apparatus and a quadrant-shaped grain platform, and both located in the rear of a line drawn through the front of the driving wheel, a rake, supported by a pivoted connection on the main frame in rear of the axis of the driving wheel, and so arranged that it will sweep over the platform and deliver the grain in the rear of the main frame; substantially as set forth.

Second, a movable fulcrum upon which the rake is suspended, and operated in the manner substantially as described.

No. 1,976.—DENNIS G. LITTLEFIELD, Albany, N. Y.—*Base Burning Stove.*—Patented January 24, 1854; reissued November 19, 1861; again August 20, 1862; again March 3, 1863; again November 8, 1864; again February 28, 1865; again May 30, 1865.

Claim.—The combination of a reserve fuel supplying cylinder, a separate fire pot, a chamber to receive the products of combustion, and an exhausting exit flue, substantially as and for the purposes described.

No. 1,977.—WARREN GALE and B. B. BELCHER, Chicopee Falls, Mass., assignee of WARREN GALE.—*Straw Cutter.*—Patented December 18, 1860; reissued May 30, 1865.

Claim.—First, the arrangement of the knife pivot upon a step or carrier, so as to produce angular and distance adjustments of the knife to the cutting edges of the stationary blade or mouth-piece, whether the carrier is in one piece with, or attached immediately to, the mouth-piece, or is separate therefrom.

Second, the combination and arrangement of the carrier C and flanch of the pivot G, provided respectively with the longitudinal slot, and with the bolt hole *b*, and transverse slot *c*, for producing the adjustments desired, substantially as herein specified.

No. 1,978.—ARIEL B. SPROUT, Hughesville, Penn.—*Horse Rake.*—Patented November 25, 1862; reissued May 30, 1865.

Claim.—Sustaining the weight of the gang of curved metallic teeth, which are united to a common rake head arranged behind the axle upon such a point of their length that they shall be balanced or nearly so upon a bar which is free to rotate with them, and which is independent of the draught devices, substantially as described.

No. 1,979.—NATHANIEL JENKINS, Boston, Mass.—*Cock.*—Patented April 18, 1865; reissued June 6, 1865.

Claim.—First, the swivel H, in combination with the follower E and seat L, substantially as and for the purpose described.

Second, the combination and arrangement of the thimble I, swivel H, and packing K, substantially as and for the purpose described.

Third, a hemispherical or hemispheroidal valve or packing, constructed with a flange *m*, substantially as and for the purpose described.

Fourth, the elastic packing or valve attached to the follower by means of a flange *m*, and a corresponding socket, substantially as set forth and specified.

No. 1,980.—WILLIAM E. LOCKWOOD, Philadelphia, Penn.—*Ladies' Collar and Cuffs.*—Patented April 26, 1859; reissued June 6, 1865.

Claim.—An embossed collar or cuff, made of a fabric composed of paper and muslin or an equivalent fabric.

No. 1,981.—WILLIAM E. LOCKWOOD, Philadelphia, Penn.—*Ladies' Collar and Cuffs.*—Patented April 26, 1859; reissued June 6, 1865.

Claim.—An ornamental collar or cuff, made of a fabric composed of paper and muslin or of an equivalent fabric ornamented by printing or otherwise marking on the surface plain or colored devices.

No. 1,982.—WILLIAM E. LOCKWOOD, Philadelphia, Penn.—*Ladies' Collar and Cuffs.*—Patented April 26, 1859; reissued June 6, 1865.

Claim.—An ornamental collar or cuff made of a fabric composed of paper and muslin, or an equivalent fabric, ornamented by perforations as set forth.

No. 1,983.—WILLIAM E. LOCKWOOD, Philadelphia, Penn.—*Ladies' Collar and Cuffs.*—Patented April 26, 1859; reissued June 6, 1865.

Claim.—An ornamental collar or cuff made of a fabric composed of paper and muslin, or of an equivalent fabric, ornamented by the interlacing of colored tapes or ribbons, as set forth.

No. 1,984.—JOSHUA REGESTER, Baltimore, Md.—*Street Washer.*—Patented July 23, 1861; reissued June 6, 1865.

Claim.—First, a metallic sectional stop-cock case, which is so constructed that in the act of securing the sections together the stop-cock and its appendages are confined within said case, in a permanent position, substantially as described.

Second, centring the stop-cock at its lower end by means of a collar bearing F, or its equivalent, in combination with a metallic case, substantially as described.

Third, the combination of a turning discharge pipe B with a stop-cock and a metallic case, which is constructed with an upper and lower bearing F, substantially as described.

No. 1,985.—CHARLES L. STACY, Cincinnati, Ohio.—*Hydrant.*—Patented October 4, 1859; reissued June 6, 1865.

Claim.—First, the provision in a hydrant piston of a flexible cup G, or its described equivalent, so arranged as to cover the waste aperture in the act of drawing, and to be pressed against said aperture by the head of water in the discharge pipe, substantially as set forth.

Second, the relative arrangement of the cup-formed disks F G and G‴, and the apertures K and L, adapted in the manner set forth to form a chamber I, closed on all sides, with the exception of the ingress aperture K, while the hydrant is open, substantially as set forth.

No. 1,986.—ROBERT H. STAPLES, Lowell, Mass.—*Spring-back Chair.*—Patented November 8, 1864; reissued June 6, 1865.

Claim.—A back swinging independently of a seat, and pivoted above it to stationary supports or the arms of the chair, in combination with a spring or springs, or equivalent device, to return it to its normal condition.

No. 1,987.—THE HAGAN MANUFACTURING COMPANY, New York, N. Y., assignees of WILLIAM E. HAGAN, Troy, N. Y.—*Improvement in Stoves by the use of Superheated Steam upon the Fuel.*—Patented March 8, 1864; reissued June 6, 1865.

Claim.—In the management of combustion in fire chambers the application, substantially as herein described, of superheated steam in jets, so as to impinge without admixture with atmospheric air directly against the incandescent coals, in addition to or in combination with

the supply separately of atmospheric air, either by draught or blast, in the usual manner, as set forth and for the purposes specified.

Also, in the construction of fire chambers for the combustion of fuel, and provided with apertures at or near the bottom for the admission of atmospheric air, combining therewith a steam chamber or chambers for superheated steam, the inner wall of the steam chamber or chambers having numerous small apertures next to the fuel for the escape of the superheated steam to impinge, without admixture of atmospheric air, against the incandescent coals, substantially as and for the purposes specified.

Also, in the construction of fire chambers, combined substantially as herein described, with a chamber or chambers for superheated steam, and with numerous apertures for the escape of superheated steam in jets to impinge against the incandescent coals, making the perforated wall of the fire chamber grooved, or the equivalent thereof, to reduce the thickness thereof at the perforations, substantially as and for the purposes specified.

No. 1,988.—THE HAGAN MANUFACTURING COMPANY, New York, N. Y., and WILLIAM E. HAGAN, Troy, N. Y., assignees by mesne assignments of WILLIAM E. HAGAN.—*Furnace for Treating Ores by Superheated Steam.*—Patented March 8, 1864; reissued June 6, 1865.

Claim.—First, the employment or application of superheated steam, in the manner as or substantially as herein described and set forth, for the purpose of refining or reducing metals, and for the removal of sulphur, arsenic, phosphorus, or other impurities from ores or minerals.

Second, the employment or application of superheated steam, as or substantially as herein described, for the purpose of calcining and disintegrating quartz rock containing silver, gold, or other metals.

Third, the employment or application of superheated steam for the refining of iron, and for the converting of iron into semi or pure steel, in the manner substantially as herein described and set forth.

No. 1,989.—WILLIAM ARCHER, assignor to himself and WILLIAM P. DOWNER, New York, N. Y.—*Distilling Hydro-carbon Oils.*—Patented September 6, 1864; reissued June 13, 1865.

Claim.—The continuous and fractional distillation and separation of hydro-carbon and other oils and volatile substances by the direct application of superheated steam or hot air to the surface of a flowing sheet, column, or shower of the substance to be distilled, in the manner described, or any modification thereof by which the same result may be accomplished.

Also, the combination of the leading tube *b* with the deflecting and receiving disks *c* and *e*, with the spiral or straight feeding tube *d*, in the manner and for the purposes described.

No. 1,990.—WILLIAM G. BROWER, New Brunswick, N. J.—*Hoisting Machine.*—Patented May 25, 1858; reissued June 13, 1865.

Claim.—First, the combination in a machine for hoisting, of a coupling J, or its equivalent, for connecting and disconnecting the driving power to and from the windlass, with the sliding bars K N, levers O O, substantially as and for the purpose above described.

Second, the devices mentioned in the preceding clause of the claim, in combination with means for holding the article to be raised, substantially as and for the purpose above described.

Third, withdrawing the levers O O from their engagement with the shifting bar K, by means of the hoisting rope or chain, and the cross-bar P, and rods *g*, or their equivalents, so as to connect the windlass with the driving power by means of the descent or weight of the rope or chain and its attachments, substantially as described.

No. 1,991.—GEORGE J. COLBY, Waterbury, Vt.—*Machine for Peeling Willow.*—Patented October 12, 1858; reissued June 13, 1865.

Claim.—First, the application and use of vulcanized India-rubber, or other yielding elastic substances, for rollers, to admit various sizes of osiers or willow rods to be drawn in between, rubbed, and wrung, to loosen the bark for peeling and discharge the rods, as herein specified.

Second, the serrated metal roller B, in connection with an elastic or yielding roller B′, they both having end chase, or a lateral vibrating motion, to mangle and rub rods without crushing them, for the manufacture of willow ware.

Third, the rack or comb N for separating the loosened bark from the rods, in combination with the feed rollers L M, and the faster speed rollers H H′, for discharging the peeled rods as herein set forth.

No. 1,992.—GEORGE J. COLBY, Waterbury, Vt.—*Mode of Fastening India-rubber Rolls to Metallic Shafts.*—Patented April 1, 1862; reissued June 13, 1865.

Claim.—The process of forming a cement to fasten vulcanized India-rubber, gutta-percha, or other similar gums, to metal, wood, or other substances, by heating the surface of the gum sufficient to melt it to a sticky state, and then applying it in that state to other heated substances, and cool off, as herein specified.

No. 1,993.—EDWARD N. DICKERSON, New York, N. Y.—*Steam Boiler.*—Patented March 1, 1864; reissued June 13, 1865.

Claim.—First, a superheating steam boiler, constructed and operating substantially on the principles described.

Second, combining in a boiler an evaporating apparatus so constructed and arranged as to convey the water in divided streams from one water space to another across the column of hot gases ascending from the fire, with a superheating apparatus placed above it so constructed and arranged as to convey the steam in divided streams across the same column of hot gases in an opposite direction from that in which the water first passed, in order that it may be superheated on its passage to the engine, substantially as described.

Third, specifically and as the best elements for constructing said new boiler, the arrangement of the tubes in the evaporating apparatus which convey the water in divided streams across the current of hot gases, and other tubes still farther removed from the fire through which the hot gases pass and around which the steam flows in divided streams, substantially as described.

Fourth, so arranging the steam delivery aperture, leading the steam out from the surface of the water in an inclined straight water tubular boiler, in reference to the descending channel which supplies with water the lower ends of the water tubes, that the steam shall be drawn out above the descending column of water, so that the tendency of water to rise up to an aperture through which steam is being drawn, may be counteracted by the controlling tendency to descent in the sinking column of water, substantially as described, whether a superheating apparatus is used or not.

Fifth, the perforated sheet or other equivalent device through which the products of combustion are passed from the space above the evaporating apparatus to the chimney, so constructed and arranged that the hot gases will be drawn to the chimney through the apertures extending along the length of the evaporating apparatus in divided streams so as to disperse the heat over the evaporating surface equally, by drawing it equally from the grates, and also to diminish its intensity on the superheating apparatus, substantially as described.

Sixth, in combination with a superheating apparatus inside of a boiler and forming a part of it, straight water tubes for evaporating the water, opening at their opposite ends into ascending and descending water channels, so that the water may ascend in the channel at the higher ends of the tubes, and descend in the channel at the lower end, substantially as described.

Seventh, so arranging the evaporating apparatus with reference to the water level that the highest end shall be under the entrance end of the superheating apparatus, in order to compel the steam to pass through the superheating apparatus, substantially in the manner and for the purposes set forth.

Eighth, arranging the delivery ends of straight water tubes so that they shall open against a reflecting plate so as to neutralize the tendency of the water to jet out of the tubes and to be forced out of the boiler along with the steam when in combination with a superheating apparatus which shall receive the steam from the hot water after it has been reflected from the plate, substantially as described.

Ninth, so arranging the superheating apparatus that any water which enters it at its entrance end may drop out of it at its delivery end, and not be carried to the engine, substantially as described.

No. 1,994.—NATHAN HARPER, Newark, N. J.—*Turning Lathe.*—Patented February 14, 1865; reissued June 13, 1865.

Claim.—First, a rest constructed so as to move freely in a straight line at right angles with the axis of the material being turned, in combination with springs or weights, and shaping patterns, substantially as described.

Second, a rest constructed so as to move freely in a straight line at either an acute or obtuse angle with the axis of the material being turned, substantially as described.

Third, a compound rest when composed of the functions above described in combination with the rest having only a horizontal motion, substantially as described.

No. 1,995.—THEODORE A. HOFFMANN, Beardstown, Ill.—*Manufacture of Dextrine, Sugar, &c.*—Patented May 25, 1858; reissued June 13, 1865.

Claim.—First, the combination of steam and acids for converting starch, corn, and other cereals into dextrine, sugar, and vinegar, or alcohol therefrom, when said grain is subjected to the action of different acids and water, and the temperature of the mash is elevated to from 235 to 350 degrees (below 350 degrees) Fahrenheit.

Second, the use of a closed mash tub of such strength as to be able to sustain the pressure due to the temperature of 225 to 350 degrees Fahrenheit, substantially as herein described, for the purpose of mashing starch.

No. 1,996.—R. A. LEEPER and Z. B. KIDDER, San Jose, Ill., assignors to DILLS, KERN & CO., Atlanta, Ill.—*Cultivator.*—Patented February 12, 1861; reissued June 13, 1865.

Claim.—First, suspending the share standards I I upon pivots or bolts at their upper ends, substantially as and for the purposes shown and described.

Second, the combination and arrangement of the share standards I I, slotted supports *j j*, and beams L L, jointed at their front ends, as and for the purposes specified.

Third, the employment of the crank shaft M, provided with the arms *s* and *r*, arranged and operating substantially as and for the purposes specified and described.

Fourth, the combination of the oscillating standards I I, beams L L, crank shafts M M, provided with the arms *r s* and rods *t*, arranged and operating as specified and described.

Fifth, in combination with said standards I, beams L, connecting bar K, crank shaft M *r s*, and rod *t*, the rod O and lever N, arranged and operating as and for the purposes specified and shown.

Sixth, the combination and arrangement of the oscillating standards I I, supports *j j*, cross-bar *k*, rods *l l*, and beams *m m*, substantially as and for the purposes specified.

Seventh, in combination with said oscillating standards I I, uprights *j j*, cross-bars *k*, rods *l l*, and beams *m m*, the employment of the fulcrum *h* upon the cross-bar *g*, lever F, and rods *i i*, all arranged and operating substantially as and for the purposes set forth.

Eighth, the arrangement of the spindles *a a*, bars *b b*, and slotted plates D D, with the frame A and seat E, all arranged as and for the purposes shown and specified.

No. 1,997.—JAMES T. and HORACE A. PRATT, New York, N. Y., assignees of GEORGE F. J. COLBURN.—*Coat and Hat Hook.*—Patented November 1, 1864; reissued June 13, 1865.

Claim.—A coat or hat hook so constructed as to adapt it to be slidden and adjusted upon its sustaining bar, substantially as herein described.

No. 1,998.—HENRY BURDEN, of Troy, New York.—*Machine for Making Horse-shoes.*—Patented June 30, 1857; reissued June 13, 1865.

Claim.—First, the above described feeding apparatus, and in connection therewith the mode set forth of cutting off the rod, and the combination of the same with the devices for bending and swedging the shoe, by which combination the rod is cut into suitable lengths and fed into the machine automatically, and also the self-acting device for stopping the feeders and the mode of removing their action at the proper time.

Secondly, in machines for making horse and mule shoes with rolling swedging dies, the placing of the blank in advance of the central elevated part of the die so as to make a space sufficient for the iron to be spread backward towards such central elevated part of the die in the act of swedging, substantially as described.

Thirdly, a flange on the upper die, when said die and flange are used independently of any mechanism for creasing and punching the shoe, such flange being formed by casting it with and as part of the die, substantially as described.

Fourthly, the combination of a revolving creasing and punching die with the revolving swedging dies, by which both operations are successively and automatically performed.

Fifthly, the device set forth for taking the shoe from the upper and confining it to the lower dies, and finally taking it from the lower dies and conducting it to the flattener.

Sixthly, the means described for flattening the shoe and their combination with rolling swedging dies, by which the flattening of the shoe is automatically performed.

Seventhly, the combination and arrangement of machinery, by which the several processes above described are performed successively by one machine and without aid from attendants.

I do not mean to limit myself to the precise means of performing the operations above set forth, as they evidently admit of many variations, but I claim those devices, or their equivalents, which shall effect the same purpose in substantially the same way.

No. 1,999.—JOEL BRYANT, Brooklyn, N. Y.—*Shears.*—Patented September 22, 1863; antedated June 29, 1863; reissued June 20, 1865.

Claim.—The construction and exclusive use of shears and scissors (Figs. 1, 2, 3, 4, and 5,) whose blades are so curved and whose rivets R are so set as to cause the edges of the said blades B to meet and close below the line R of their rivets, substantially as herein described and for the purposes set forth in this specification.

No. 2,000.—JOHN CHILCOTT, Brooklyn, N. Y.—*Gas and other Retorts.*—Patented January 17, 1865; antedated January 6, 1865; reissued June 20, 1865.

Claim.—First, surrounding one or more gas or other retorts with a continuous system of flues E E, through which the flame and gaseous products from the furnace circulate back and forth several times along and once all around the retort or retorts, substantially as and for the purpose herein set forth.

Second, the jacket or casing C divided longitudinally into two parts, and having the flue partitions attached to its interior so as to be detachable from the retort, substantially as and for the purpose herein specified.

No. 2,001.—ADOLPH HAMMER, New York, N. Y.—*Brewer's Boiler.*—Patented August 11, 1857; reissued June 20, 1865.

Claim.—First, arranging the steam pipe in a boiling apparatus in two or more distinct and separate parts or series, each of which can be turned up or rotated, substantially as and for the purpose set forth.

Second, rotating the parts or sections of a steam pipe in a boiling apparatus upon an axis at or near the centre of the tub, substantially as and for the purpose specified.

No. 2,002.—ADOLPH HAMMER, New York, N. Y.—*Mash Tun.*—Patented January 9, 1855; reissued June 20, 1865.

Claim.—First, the application and use of the upper rake, constructed substantially as described, when combined with a mash tun, so as to be rotated in opposite or in the same direction to that of the usual rake, substantially as and for the purpose set forth.

Second, making the rake teeth of the tun inclined, substantially as and for the purpose described.

Third, curving the teeth of the rake of a mash tun, substantially in the manner and for the purpose specified.

Fourth, the use of inclined curved teeth in the rake of a mash tun, substantially as and for the purpose set forth.

No. 2,003.—WM. MILLER, Cincinnati, Ohio.—*Hoisting Machine.*—Patented May 12, 1863; reissued June 20, 1865.

Claim.—First, combining with the platform of a hoisting machine or elevator a worm wheel J, gearing with a corresponding worm rack D, substantially as set forth.

Second, in combination with the described or equivalent actuating mechanism H I *j j* and platform B, the arrangement of the worm racks D D and worm wheels J J′, the whole being combined and operating substantially as set forth.

No. 2,004.—JOSHUA REGESTER, Baltimore, Md.—*Street Washer.*—Patented July 23, 1861; reissued June 20, 1865.

Claim.—First, so applying a stop-cock within a metallic case that the cock and case are united together, and the cock and its key rod or discharge pipe supported permanently in position within the case, substantially as described.

Second, a stop-cock for street washers, having an upper and a lower support, which serve to sustain and centre the cock and key rod or discharge pipe applied therein to turn the water on and off, substantially as described.

No. 2,005.—FRANCIS B RICHARDSON, Boston, Mass.—*Enema Syringe.*—Patented March 5, 1861; reissued June 20, 1865.

Claim.—So forming the connection between the bulb and its flexible tube that the bulb can be used separately with a jet pipe, as well as with its flexible tube, thus adapting the syringe to all the various operations for which it may be required, as described.

No. 2,006.—CHARLES SMART, New York, N. Y., assignee by mesne assignments of GEO. A. MEACHAM.—*Button.*—Patented January 10, 1860; reissued June 20, 1865.

Claim.—First, a button revolving on its shank or stem by means of devices, substantially as hereinbefore set forth.

Second, the teeth *a*, arranged at the base of the shank A, substantially as and for the purpose hereinbefore set forth.

No. 2,007.—WM. COGSWELL and WM. H. W. CUSHMAN, Ottawa, Ill., assignees by mesne assignment of WM. H. and IRA COGSWELL, Jr.—*Harvester.*—Patented December 6, 1859; reissued June 20, 1865.

Claim.—The combination with the pinion I rotating in a fixed bearing in the frame, and a driving wheel, provided with gearing G and H, the hand lever F, and eccentric journal D, adapted to move the driving wheel forward and backward, so as to bring either of the said gears G or H into engagement with the said pinion, or equidistant from it, and out of gear, substantially as described.

No. 2,008.—FRANK P. PFLEGHAR and WM. SCHOLLHORN, New Haven, Conn.—*Machine for Finishing Nuts.*—Patented October 25, 1864; reissued June 20, 1865.

Claim.—First, the combination of reamer D, punch or punches E, milling tool F, and tap or taps G, constructed to operate substantially as specified, whether arranged in the order described or not, when the said combination exists in an organized machine, which receiving a blank metal nut finishes it complete while passing through the said organized machine.

Second, the use of milling tools F F*, arranged substantially as herein specified, for the purpose of finishing the faces of a nut.

Third, the steps *e* in the channel C, arranged substantially as and for the purpose set forth.

Fourth, the reversing gear I I J, clutch K, and switch lever L′, or their equivalent arrangement, in combination with the wheels *b* F3 *h*, which impart motion to the various tools, in the manner and for the purpose substantially as herein specified.

Fifth, the adjustable shoulders *l l′* applied in combination with the switch lever L′ and with the reversing gear, substantially as and for the purpose herein described.

Sixth, the automatically reciprocating rod *p* and finger bar *g*, applied in combination with the channel C and tools D E E* F F* G G*, in the manner and for the purpose substantially as described.

Seventh, the arm *p*3 and inclined plane *r*, in combination with the reciprocating rod *p′*, finger bar *q′*, and channel C, constructed and operating substantially as and for the purpose set forth.

No. 2,009.—WILLIAM N. WHITELEY, Jr., Springfield, Ohio, assignor to THOMAS S. STEADMAN, Murray, N. Y.—*Clover and Grass Seed Harvester.*—Patented May 23, 1854; reissued June 19, 1860; again reissued June 20, 1865.

Claim.—First, the combination of the holding plate *c*, or its equivalent, with the shaft of the driving cog wheel's pinion, and that end of the coupling arm or supplementary frame G, or its equivalent, which is hung and vibrated on said shaft.

Second, the combination or arrangement of the following elements in a harvester, viz: a

frame or box, having the cutting apparatus connected to and drawn forward by it; the shaft of the main driving cog wheel's pinion also connected to it, and about at right angles to its forward movement; a coupling arm, or supplementary frame or its equivalent, having one end hung and vibrated on said pinion shaft, and near the other end connected to the axle of the main driving cog wheel, and a holding device whereby the attendant can have the inner end of the cutting apparatus held at different heights in respect to the axle of the main driving cog wheel.

Third, connecting the main bearing and driving wheel of a harvester with the frame to which the cutting apparatus is attached in such a manner that the attendant can, while riding on the machine, vary the height of the inner end of the cutting apparatus while the outer end of said apparatus remains unchanged, substantially as described.

Fourth, the combination of the retaining and guiding arc *g*2, or its equivalent, with the axle end of the coupling arm or supplementary frame H, or its equivalent, the outer end of a harvester's cutting apparatus, and the wheel that carries this outer end or is nearest to it.

Fifth, the combination of the axles *f* and *d*, the wheels C and D, the projecting ends of the shaft of the main driving cog wheel's pinion, the frame or box carrying this shaft, the coupling arms or supplementary frames G and H, the holding plates *c c*, and the retaining and guiding arcs *g* and *g*2, or their equivalents.

Sixth, the combination or arrangement of the following parts or elements in a harvester: A frame or box which carries the shaft of the cutter's main driving cog wheel's pinion; a coupling arm or supplementary frame having the axle of the said cog wheel connected to it at or near its outer end and the inner end hung upon said pinion shaft; a holding device by which it is properly held in that place; a guiding and retaining arc attached to the main frame of the machine and maintaining the supplementary frame or coupling arm in place; cutters driven by a crank motion, and an automatic rake, which, as well as the cutters, receives its motion through the main driving cog wheel's pinion shaft.

Seventh, connecting the axle of the cutter's first driving cog wheel and said wheel's pinion shaft by the coupling arm or supplementary frame G, or an equivalent thereof, which has one end hung on said pinion shaft and therefore holds the said cog wheel's axle always at the same distance therefrom, so that the connection of the said cog wheel and its pinion will always remain the same.

Eighth, the combination of the retaining and guiding arc *g*, or its equivalent, with the main frame or box of a harvester, to which the cutting apparatus is secured, and the axle end of the coupling arm or supplementary frame G, or its equivalent, which has the other end hung on the pinion shaft connected to the main frame about parallel with the axle of the cutter's ground and driving wheel, so that the said axle and pinion shaft are always at the same distance apart, and substantially parallel, and the axle end of said coupling arm free to rise and fall, vibrating on said pinion shaft while the machine is in motion.

No. 2,010.—JOHN H. BALSLEY, Dayton, Ohio.—*Step Ladder.*—Patented January 7, 1862; reissued June 27, 1865.

Claim.—First, the supports A A, made of strips whose ends are connected together, forming between them an elongated ellipsis, as and for the purpose specified.

Second, the braces D D, in connection with the supports A A and steps *b b*, to give strength laterally, as is specified.

Third, the jointed cross piece G and slotted rods *g g*, for adjusting the supports F F laterally, as herein specified.

No. 2,011.—JACOB B. CROWELL, Greencastle, Penn.—*Wheat Drill.*—Patented June 23, 1863; reissued June 27, 1865.

Claim.—First, a horizontal rock shaft, provided with stirrers G and wipers D, substantially as set forth.

Second, a horizontal rock shaft, when armed with spikes or stirrers G′ on the upper side of the shaft, substantially as specified.

Third, the horizontal rock shaft in combination with the curved metallic bottom of the hopper, substantially as described.

Fourth, so arranging and operating a rock shaft that the spikes or stirrers on the upper side of the shaft will prevent the arching of the guano and bring the same down to a point reached by the stirrers on the under side of the rock shaft, and thus agitate and feed down the entire mass of the guano in the hopper, substantially as specified.

No. 2,012.—SAMUEL R. DUMMER, New York, N. Y.—*Combined Measure and Funnel.*—Patented April 5, 1864; reissued June 27, 1865.

Claim.—As a new article of manufacture a combined vessel and funnel, substantially as and for the purposes specified.

No. 2,013.—E. B. MANNING, Cromwell, Conn.—*Tea and Coffee Pot.*—Patented June 3, 1862; reissued June 27, 1865.

Claim.—The herein-described tea or coffee pot, in which the bottom and lower portion of the body is constructed of hard metal, as iron, united to a Britannia body in the manner described, when the said hard metal body and bottom are formed in the manner described, and united to the Britannia bottom a sufficient distance from the bottom to protect the Britannia from the effects of heat or other injury, as and for the purpose specified.

No. 2,014.—C. W. and W. W. MARSH, Clinton, Ill.—*Reaping Machine.*—Patented August 17, 1858; reissued July 5, 1864; again reissued June 27, 1865.

Claim.—First, the secondary, elevating band of rakes F, consisting of toothed slats extending across on the under side of a slotted platform, the teeth protruding through the slots, in the manner described, and used in connection with the binders' grain receptacle I, substantially as and for the purpose set forth.

Second, the loose cover H, whose upper and lower edges are curved, as described, when used in connection with the steady pins *h h h h*, and the secondary band of rakes, as described.

No. 2,015.—C. W. and W. W. MARSH, Clinton, Ill.—*Reaping Machine.*—Patented August 17, 1858; reissued July 5, 1864; again reissued June 27, 1865.

Claim.—First, the binders' tables M M, when used in connection with the concave I, or other equivalent grain receptacle, substantially as and for the purpose set forth.

Second, binders' platform J, when used in connection with tables M M, substantially as and for the purpose specified.

Third, the relative arrangement of the several parts of the binding attachment, as shown in figures 2 and 3, a table M at each end of the receptacle I, and platform J, the binders' stand between said tables, substantially as and for the purpose set forth.

No. 2,016.—ISAAC P. TICE, New York, N. Y., assignee by mesne assignment of AUSTIN T. SMITH.—*Chair Bottom or Back.*—Patented May 25, 1858; reissued June 27, 1865.

Claim.—The employment of perforated sheet metal in the bottoms or seats and backs of chairs, and other articles of furniture for sitting and recumbent purposes, substantially as herein described.

No. 2,017.—ANDREW WHITLEY, Springfield, Ohio, assignee by mesne assignment of J. J. WEEKS.—*Harvester of Grain and Grass.*—Patented September 26, 1854; reissued June 27, 1865.

Claim.—First, making that portion of the upper part of the guard fingers of a harvester which rests on the finger bar, in two parts, one on either side of the lower part, but neither of them over it, or any screw or bolt passing through it and the finger bar, through which it is passed.

Second, the combination of the herein described short cutter and narrow divider and a track clearer with a harvester finger bar, which is connected to the axle of the cutter's driving wheel in such a manner as to rise and fall with the undulations of the ground over which it is drawn, irrespective of the risings and fallings of said axle.

Third, the combination of a revolving track clearer with the outer end of a harvester's finger bar, in such a manner as to have no part of the machine between the ground and that part of this track clearer which separates the cut from the uncut grass, neither any part of it between the finger bar, the revolving track clearer, and that part by which it is connected to the finger bar.

Fourth, the combination of a revolving track clearer with the outer end of a harvester's finger bar and a wheel connected therewith in such a manner that the attendant of the machine can, while the machine is in operation, make this wheel carry said end or not, as he desires, substantially as shown and described.

No. 2,018.—CHRISTOPHER DUCKWORTH, Mount Carmel, Conn.—*Loom.*—Patented June 28, 1853; reissued July 4, 1865.

Claim.—First, a power loom, which is provided with many-celled shuttle boxes, the movements of which are automatically controlled in such a manner that the cells of the boxes can be skipped over any desired shuttle thrown from any box in the combination, according to the character or figure to be woven, substantially as described.

Second, providing for operating many-celled shuttle boxes, so as to bring any desired shuttle into action, by means of pawls, ratchets, and reversible tappets, in combination with pattern surfaces, which will control the figure to be woven, substantially as described.

Third, the use of tappets, which receive both a rotary and an oscillatory motion from a pattern or patterns, in combination with many-chambered shuttle boxes, substantially as described.

No. 2,019.—CHRISTOPHER DUCKWORTH, Mount Carmel, Conn.—*Loom.*—Patented June 28, 1853; reissued July 4, 1865.

Claim.—First, giving an alternate movement to shuttle boxes in a vertical plane, by means of pawls, reversible tappets, and a contrivance which will automatically control the movements of said pawls, substantially as described.

Second, giving an alternate movement to shuttle boxes in a horizontal plane, by means of pawls, reversible tappets, and a contrivance which will automatically control the movements of said pawls, substantially as described.

Third, giving an alternate diagonal movement to shuttle boxes, by means of pawls, reversible tappets, and a contrivance which will automatically control the movements of said pawls, substantially as described.

Fourth, the combination of reversible tappets with shuttle boxes, which are so applied to the loom that they will admit of being moved either laterally, vertically, or diagonally, substantially as described.

Fifth, giving an intermittent, oscillating, or rotary movement to a shuttle box actuator, by means of pawls and ratchet wheels, which are controlled by a cam surface *t*, or its equivalent, substantially as described.

Sixth, the use of tappets, which receive a forward and backward movement, or a continuous rotary movement, in combination with many-chambered shuttle boxes at both ends of the lathe, which boxes are connected together by a lever G, and operated simultaneously by means of said tappets, substantially as described.

Seventh, giving a reciprocating movement to many-chambered shuttle boxes of looms, by means of contrivances which are controlled automatically in such a manner that the boxes are moved a greater or less distance by a single vibration of the lathe, so as to throw the shuttle in regular order or to skip a shuttle, according to the figure which it is desired to weave, substantially as described.

No. 2,020.—JOHN JOCHUM, Brooklyn, N. Y.—*Self-acting Pulley Brake.*—Patented November 29, 1864; reissued July 4, 1865.

Claim.—A tackle block containing one or more sheaves, and provided with one or more spherical wedges E, and spring F, constructed and operating substantially as and for the purposes set forth.

No. 2,021.—ROBERT SPENCER, New York, N. Y.—*Furnace for Decomposing and Desulphurizing Ores.*—Patented November 8, 1864; reissued July 4, 1865.

Claim.—First, in a kiln or furnace for reducing quartz rock by heating and plunging the rock into a liquid bath, an arrangement by which the rock, when highly heated, may be precipitated at once from the furnace directly into the bath, substantially as described.

Second, in a kiln or furnace for reducing the ores of the precious metal, the use of a hood, and usual appurtenances for the condensation and preservation of sulphur, or of the fine particles of the precious metals, substantially as hereinbefore described.

No. 2,022.—ROBERT SPENCER, New York, N. Y.—*Method of Decomposing and Desulphurizing Ores.*—Patented November 8, 1864; reissued July 4, 1865.

Claim.—First, the above-described process of removing sulphur from quartz rock, and rendering such rock pulverulent by long-continued and high heat, and subsequent sudden precipitation into a liquid bath.

Second, reducing the ores of the precious metals when embedded in rock, in combination with sulphur, without the necessity of previously breaking the rock into nodules, by heating and quenching, substantially as above described.

Third, the effectual separation of the precious metals from quartz rock and sulphur, without the necessity of a second heating of the granulated quartz, by heating and quenching, substantially as described above.

Fourth, the use of a bath for quenching the heated rock, consisting of water impregnated with ingredients that act chemically upon the rock, for the purpose of softening it and preparing it for the action of the grinding apparatus.

No. 2,023.—PHILO P. STEWART, Troy, N. Y.—*Coal Stove.*—Patented April 28, 1863; reissued July 4, 1865.

Claim.—First, the combination of the cylinder or box *c* with the surrounding air-distributing chamber S, and with the fire-brick *d*, containing apertures, all constructed and arranged in the manner substantially as and for the purposes herein described and set forth.

Second, the perforated plate *m*, and cold air chamber K, in combination with the said door *w*, having therein the wire gauge, or its equivalent, and with the surrounding air-distributing chamber S, in the manner and for the purposes herein described and set forth.

Third, the perforated plate *m*, and cold air chamber K, or its equivalent, in combination with the door *w*, having therein the cold air chamber Z, constructed, arranged, and combined in the manner and for the purposes substantially as herein described and set forth.

Fourth, the employment of the air-distributing chamber S, opening at its lower end into the ash drawer or chamber *g*, and immediately between the fire-brick or inner linings *d* of the fire chamber, and the outer casing or box *c* surrounding the said air chamber, and having lugs or iron pins cast thereon, and each arranged and combined in the manner substantially as herein described and set forth.

No. 2,024.—SAMUEL S. STONE, Troy, N. Y.—*Machine for Incising Button Holes, and Embossing and Printing Articles of Wearing Apparel.*—Patented August 23, 1864; reissued July 4, 1865.

Claim.—First, two oblong male button hole punches, and two corresponding female punch-receiving dies, combined and arranged and made adjustable so as to punch two oblong button holes endwise, or nearly so, to each other, at one operation, and at various distances apart, substantially as herein set forth.

Second, two oblong male button hole punches, and two corresponding punch-receiving dies, combined and arranged and made adjustable so as to punch two oblong button holes apart from each other at one operation, and in various directions, substantially as herein set forth.

Third, two oblong male button hole punches, and two corresponding punch-receiving dies, combined and made adjustable so as to punch two oblong button holes at one operation, and in various directions, and at different distances apart, substantially as herein set forth.

Fourth, two oblong male button hole punches, and two corresponding receiving dies, combined and arranged, and made adjustable so as to punch two oblong button holes crosswise, or nearly so, to each other, at one operation, and at various distances apart, substantially as herein set forth.

Fifth, three oblong male button hole punches, and three corresponding punch-receiving dies, combined and arranged so as to punch two oblong button holes apart from, and endwise, or nearly so, to each other, and another oblong button hole midway, or nearly so, between and crosswise, or nearly so, to the said end button holes, all at one operation, substantially as herein set forth.

Sixth, three oblong male button hole punches, and three corresponding punch-receiving dies, combined and arranged and made adjustable so as to punch a central and two end oblong button holes at various distances apart, substantially as herein set forth.

Seventh, three oblong male button hole punches, and three corresponding punch-receiving dies, combined and arranged and made adjustable so as to punch a central and two end oblong button holes apart from each other at one operation, and the end button holes, in various directions, substantially as herein set forth.

Eighth, three oblong button hole punches, and three corresponding punch-receiving dies, combined and arranged and made adjustable so as to punch a central and two end oblong button holes at one operation, and the end button holes in various directions, and at different distances apart, substantially as herein set forth.

Ninth, three oblong male button hole punches, and three corresponding punch-receiving dies, combined and arranged and made adjustable so as to punch a central and two end oblong button holes apart from each other at one operation, and the central button hole at various distances from a line joining the two end ones, substantially as herein set forth.

Tenth, three oblong male button hole punches, and three corresponding punch-receiving dies, combined and arranged and made adjustable so as to punch a central and two end oblong button holes at one operation, and the central button hole at different distances from a line joining the two end ones, and the two end button holes at various distances apart, substantially as herein set forth.

Eleventh, three oblong male button hole punches, and three corresponding punch-receiving dies, combined and arranged and made adjustable so as to punch a central and two end oblong button holes apart from each other at one operation, and the end button holes in various directions, and the central button holes at different distances from a line joining the two end ones, substantially as herein described.

Twelfth, three oblong male button hole punches, and three corresponding punch-receiving dies, combined and arranged and made adjustable so as to punch a central and two end oblong button holes at one operation, and the end button holes in various directions, and at different distances apart, and the central button hole at various distances from a line joining the two end ones, substantially as herein set forth.

Thirteenth, three oblong male button hole punches, and three corresponding punch-receiving dies, combined and arranged and made adjustable so as to punch a central and two end oblong button holes apart from each other at one operation, and the central oblong button hole in different directions, in respect to a line joining the two end button holes, substantially as herein described.

Fourteenth, three oblong male button hole punches, and three corresponding punch-receiving dies, combined and arranged and made adjustable so as to punch a central and two end oblong button holes apart from each other at one operation, and the central button hole in different directions, in respect to and at various distances from a line joining the two end button holes, substantially as herein described.

Fifteenth, an imitation stitching stamp E, with an impression bed F therefor, and one or more male button hole punch or punches, with corresponding punch-receiving die or dies, all combined and arranged substantially as herein described.

Sixteenth, a type block E of letters or figures, or letters and figures, with an impression bed therefor, and two end or ends and central male button hole punches, adjustable to different positions, with corresponding adjustable punch-receiving dies, all combined and arranged substantially as herein described.

Seventeenth, an imitation stitching stamp E, and a type block F, with impression beds therefor, and one or more button hole punch or punches, with a corresponding punch-receiving die or dies, all combined and arranged substantially as herein described.

Eighteenth, guides or stops G, or end or ends, and central oblong male button hole punches, and corresponding female punch-receiving dies, all combined and arranged substantially as herein described.

No. 2,025.—ICHABOD WASHBURN and P. L. MOEN, Worcester, Mass., assignees by mesne assignments of CHESNEY & BROWN.—*Apparatus for Sizing and Finishing Skirt Wire.*—Patented October 13, 1863; reissued July 4, 1865.

Claim.—In sizing and finishing covered wire or other covered strips in a continuous operation, causing the wire to pass through a starch bath, and thence back and forth over rolls or heated cylinders, and in contact with a polisher, in the manner substantially as hereinbefore described.

No. 2,026.—EDWARD T. BRIGGS, Boston, Mass.—*Curtain Fixture.*—Patented May 19, 1863; reissued July 11, 1865.

Claim.—The combination composed of the tubular curtain roller A′, its stationary shaft *a*, and helical spring *e*, as set forth, and a friction apparatus substantially as described, or its equivalent, for the purpose or to operate as set forth, the whole being for application to a shade and a weighted tassel, and co-operative as explained.

Also, the combination of the nut E and screw *c* with the shaft *a*, the roller A′, and its spring *e*, they being arranged and applied as described, and the purpose of such screw and nut, irrespective of their use with the remainder of the friction apparatus, being to prevent the spring from unwinding further than is necessary to cause the roller to wind up the shade.

Also, the friction apparatus constructed or composed of the screw *c*, the disk F, the nut E, the spring *i*, and the nut H, and arranged with the roller A′ and its shaft *a*, so as to operate therewith substantially as set forth.

No. 2,027.—ROBERT H. LECKY, Alleghany, Penn.—*Truck for Street Railways.*—Patented April 5, 1864; reissued July 11, 1865.

Claim.—First, arranging the axles with relation to the wheels so that the inner end of the axles of the wheels which travel on the short or inner curve of the track will, in turning curves, move more than the inner end of the axles of the wheels which travel on the long or outer curve of the track, said axles and wheels being operated substantially in the manner and by the means herein described and for the purpose set forth.

Second, the combination of the swivel bearings 6 and 20 with the disks *m*, (or their equivalents—levers,) axles *l*, wheels *i*, and connecting rod 19, operated by the means and in the manner substantially as described, for the purpose set forth.

Third, securing the tongue *a′* to the bottom *b*, by means of the flanged tube *x′* and support *x*, as herein described and for the purpose set forth.

Fourth, the use of the catch 17 and guide *q*, when used in combination with the tongue *a′*, flanged tube *x′*, bottom *b*, and lever *b′*, arranged and operating substantially as herein described and for the purpose set forth.

Fifth, the arrangement of the brakes *z*, cups *w*, plungers *v*, and levers 9 8 18 and 12, arranged and operating substantially as herein described for the purpose set forth.

No. 2,028.—HENRY W. ADAMS, New York, N. Y., and W. S. WORTHINGTON, Newtown, N. Y.—*Amalgamating and Collecting Gold and Silver.*—Patented February 16, 1864; antedated February 12, 1864; reissued July 18, 1865.

Claim.—The process of amalgamating the precious metals by bringing their mineral matter in the state of a dust into contact with the vapor of quicksilver during their passage through the heating vessel, substantially in the manner and for the purpose herein set forth.

No. 2,029.—HENRY D. DUNBAR, Springfield, Mass.—*Piston for Steam Engines.*—Patented August 14, 1860; reissued July 18, 1865.

Claim.—First, the solid T-shaped ring applied to a piston head, in the manner substantially as and for the purpose described.

Also, in combination with a solid or uncut ring, the segmental break-joint rings *e i*, the latter fitting into the angle of the former, and both breaking joint with each other, and held out against the cylinder by the action of the steam therein, substantially as described.

No. 2,030.—PETER HOLMES, Charlestown, Mass., assignee of J. POWER and A. J. BAILEY.—*Machine for Cutting Corks.*—Patented May 20, 1862; reissued July 18, 1865.

Claim.—First, producing a cylindrical or conical cork by two cuts with one and the same knife, by means substantially such as herein described, or by any equivalent means.

Second, the combination of the reciprocating cutter L and rotating mandrel C, when arranged substantially as shown, so that the latter will have a continuous rotary motion imparted to it in one and the same direction by the reciprocating movement of the cutter, for the purpose herein set forth.

Third, the cap K, of slide I, knife L, and shafts J J, attached, in combination with the sliding rack O, pinion N N, and pins *h h′*, arranged substantially as shown, for elevating and depressing the knife L, for the purpose specified.

No. 2,031.—JOEL F. KEELER, Pittsburg, Penn.—*Constructing Railroad Cars for Transporting Oil and other Liquids.*—Patented January 10, 1865; reissued July 18, 1865.

Claim.—First, constructing railway freight cars (technically called so) with a covered tank or tanks for the transportation of liquids in bulk, when any part of such tank or tanks is placed below the level of the top of the wheels of the car.

Second, constructing railway truck tanks for transporting liquids in bulk in such a manner, substantially as hereinbefore described, as that the metallic parts of the tank itself shall serve the purposes of a truck frame.

Third, providing railway truck tanks for transporting liquids in bulk with one or more contracted space or spaces in the upper part of the tank, of less horizontal area than the body of the tank, for the purpose of affording room for the expansion of the liquid, and checking its surging motion, substantially as hereinbefore described.

Fourth, constructing freight cars with a tank or tanks for transporting liquids in bulk, combined with a box or receptacle for the carriage of dry freight, substantially as hereinbefore described.

Fifth, the mode of ventilating combined railway truck tanks and freight cars by means of air passages, substantially as and for the purposes hereinbefore set forth.

No. 2,032.—ARIEL B. SPROUT, Hughesville, Penn.—*Horse Rake.*—Patented January 17, 1865; reissued July 18, 1865.

Claim.—First, independently of the shape of the sides, which are, however, in the main of a trilateral character, (viewed in cross section,) unless by the removal of the angles the sides are merged into a curve, a tooth so constructed that on being divided by a longitudinal section which follows the curvation of the tooth at a point midway between the inner and outer lines of said curvation, the greater amount of metal and the widest portion of the tooth shall be on the inner side of said curved section, substantially as above set forth and described.

Second, in combination with a tooth having the above characteristics, a coiled spring by which it is attached to the head, and by means of which its elasticity is increased.

Third, the plates C C, adapted to be secured in position by the screw *c*, substantially as and for the purpose specified.

Fourth, the spool C *c*2 *c*3, constructed and arranged substantially as described, and adapted for the attachment of the spring A′, in the manner set forth.

No. 2,033.—SAMUEL R. SYLVESTER, Washington, D. C.—*Soda Fountain.*—Patented July 21, 1863; reissued July 18, 1865.

Claim.—First, producing soda water on draught by means of an apparatus which is so constructed as to give a direct discharge of the alkaline solution from an open vessel, through a pump, into a vessel containing acidulated sirup, substantially as described.

Second, producing a continuous or uninterrupted stream of an alkaline solution from an open vessel into a vessel of acidulated sirup by means of a pump, substantially as described.

No. 2,034.—JAMES H. HOFFMAN, New York, N. Y.—*Turndown Enamelled Paper Collar.*—Patented January 24, 1855; reissued July 25, 1865.

Claim.—The new article of manufacture consisting of a turndown or folded enamelled paper collar, substantially as described.

No. 2,035.—SAMUEL LAGOWITZ, New York, N. Y.—*Carpet Bag Frame.*—Patented July 7, 1863; reissued July 25, 1865.

Claim.—The cover B, made of elastic wood and attached to one end of the jaws A, by stays or brackets, all as herein shown and described.

No. 2,036.—BENJAMIN M. NYCE, Cleveland, Ohio.—*House for Preserving Fruit, &c.*—Patented November 2, 1858; reissued October 23, 1860; again May 16, 1865; again July 25, 1865.

Claim.—The insulated and cooled preserving chamber J, provided with absorbents of moisture, substantially as set forth, either with or without the agitator K.

No. 2,037.—BENJAMIN M. NYCE, Cleveland, Ohio.—*Preserving Fruit and other Perishable Substances.*—Patented November 2, 1858; reissued October 23, 1860; again May 16, 1865; again July 25, 1865.

Claim.—The method of preserving fruit in a chamber whose walls, doors, and floors are practically air-tight, and so proof against the ingress of heat and moisture as to maintain, by the aid of ice on a metal floor above, a uniform temperature of from 34° to 37° Fahrenheit throughout the year, and by the use of absorbents within said chamber producing any desired degree of dryness.

No. 2,038.—BENJAMIN M. NYCE, Cleveland, Ohio.—*Preserving Fruit and other Perishable Substances.*—Patented November 2, 1858; reissued October 23, 1860; again May 16, 1865; again July 25, 1865.

Claim.—The above described outside air-tight casings of walls, when used in combination with a chamber chilled by ice on a metallic floor, on its upper part, with absorbents of moisture within said chamber.

No. 2,039.—THOMAS SILVER, New York, N. Y.—*Steam Engine Governor.*—Patented April 26, 1859; reissued August 1, 1865.

Claim.—The combination of a spring with a momentum wheel and adjustable speed limiting vanes, the whole constructed with the combination of the peculiarly adjusted sectors, pinion, and links, as fully described and set forth.

No. 2,040.—OLIVER A. DAILEY, Washington, D. C.—*Box for Hats and Bonnets.*—Patented March 14, 1865; reissued August 1, 1865.

Claim.—A hat box made of paper, cloth, leather, or the equivalent thereof with respect to lightness, and strengthened by the use of ribs, substantially as described.

No. 2,041.—JOHN S. GAGE, Dowagiac, Mich.—*Seed Coverer for Grain Drills.*—Patented August 26, 1862; reissued August 1, 1865.

Claim.—First, the seed coverer as herein described, constructed with two concave or converging arched palms *a a*, which are shaped on their rear and bottom edges as represented, and are connected by an intermediate portion *e*, so as to have a space *b* between them, the said coverer being made of one piece of metal only, and adapted to be applied to the nearly horizontal arms A A of the seeding machines, so as to operate upon the sides and top of the ridge or row, as herein specified.

Second, providing the coverer with a lug *c*, adapted to receive a weight, substantially as described.

No. 2,042.—JOSEPH W. NORCROSS, Middletown, Conn.—*Tackle Hook.*—Reissued August 1, 1865.

Claim.—The strap or brace B, which forms the upper section of the lower eye of the hook A, and is made to swivel on the neck of said hook and connected to its points, substantially in the manner and for the purposes set forth.

No. 2,043.—GEORGE A. STEARNS, Rochester, N. Y.—*Lightning Arrester for Telegraphs.*—Patented June 21, 1864; reissued August 1, 1865.

Claim.—The protection of electric telegraph lines from the disturbing influences of atmospheric electricity by means of a small, fine guard wire inserted in the main or line circuit thereof, in such a manner as to complete said circuit, when such guard wire is used in combination with a metallic surface or with a series of metallic points connected with the earth and placed in close proximity to the line at or in advance of said guard wire, all substantially in the manner herein set forth.

Also, establishing communication between the main or line circuit of an electric telegraph and the earth, for the discharge of atmospheric electricity frrom the line by the use of charcoal, powdered glass, powdered amber, sulphur, or other equivalent substances brought into contact with said line and connected with the ground, substantially in the manner herein set forth.

No. 2,044.—W. J. VAN HORN and WILLIAM ALEXANDER, Louisiana, Mo.—*Machine for Sheeting Plug Tobacco.*—Patented December 27, 1859; reissued August 1, 1865.

Claim.—First, the combination and arrangement of the two belts C and G, or their equivalents, with a cylinder B and a series of pressing rollers F, arranged and operating substantially as and for the purposes herein specified and shown.

Second, in combination with said cylinder, pressing rollers, and belts C G, the employment of the feeding table J, all arranged and operating substantially as shown and described.

Third, the employment of the rollers L L, provided with the circular knives *a*, and the corresponding channels or grooves, substantially as and for the purposes delineated and described.

Fourth, the employment of the rollers M M, provided with the longitudinal cutters N, arranged and operating as and for the purposes set forth.

Fifth, the combination and arrangement of the two pairs of rollers L and M, provided respectively with the cutters *a* and N, arranged and operating substantially as and for the purposes herein set forth and shown.

Sixth, the combination and arrangement of the cylinder B, rollers F, table J, belts C G, cutting rollers L and M, constructed and operating substantially as and for the purposes herein specified and described.

No. 2,045.—A. E. and J. V. WARNER, Norwalk, Ohio.—*Sawing Machine.*—Patented May 30, 1865; reissued August 1, 1865.

Claim.—The above-described arrangement of operating a circular saw, in combination with a cross-cut saw, or separately, substantially as and for the purposes set forth.

No. 2,046.—S. H. DOUGHTY, Clinton Township, N. J., assignee by mesne assignments of JAS. DRAPER.—*Skeleton Skirt.*—Patented October 4, 1859; reissued December 27, 1859; again August 1, 1865.

Claim.—The new manufacture of skeleton skirt, substantially as described, consisting of a series of tapes woven in the direction of their length, in alternate sections, as single and as double tapes, with the hoops inserted in the loops formed by wearing the tapes as double tapes, and there secured to prevent the tapes from sliding laterally on the hoops.

No. 2,047.—RUFUS DUTTON, New York, N. Y.—*Harvester.*—Patented March 19, 1861; reissued September 13, 1864; again August 8, 1865.

Claim.—First, in machines having a hinged or flexible finger bar, raising such finger bar by means of a lever supported or pivoted at one end on the shoe or heel of the finger bar, and turning freely toward the finger bar, but rigid with it when turned in an opposite direction, by causing such lever, when the heel of the finger bar is raised, to be brought in contact with the pole or the frame of the machine, or a projection therefrom, so as to press or force down such lever, and thereby raise the outer end of the finger bar, substantially as set forth.

Second, in two-wheeled machines having a hinged finger bar, and having the driver's seat

controlled by the pole, instead of by the frame of the machine, and not using or employing a caster wheel to support the drooping end of the frame and the inner end of the finger bar, raising the inner end of the finger bar by means of a lever and cord or chain, or its equivalent, acting upon the pole or some part connected therewith as a fulcrum, when the outer end of such finger bar is raised by means of a lever supported or pivoted at one end on the shoe or heel of the finger bar, and turning freely toward the finger bar, but rigid with it when turned in an opposite direction, and operated as first set forth in the first claim.

Third, in two-wheeled machines having a hinged finger bar and a loose pole, and having the driver's seat controlled by the pole instead of by the frame of the machine, so arranging with reference to the frame of the machine, the finger bar, and the mechanism for raising it and the shoe, that when the finger bar and shoe are raised by such mechanism their weight will be so thrown upon the two driving wheels that the use of a centre wheel to support the drooping end of the frame can be dispensed with, and the machine can also be moved and turned with greater ease and facility.

Fourth, in a machine having two independent driving or supporting wheels, and having the driver not controlled by the pole of the machine, hanging the cutting apparatus by one of its ends, so that not only the entire cutting apparatus, but either end thereof, independently of the other end, can freely rise above or fall below the plane or surface on which the driving wheels are moving, in combination with mechanism or devices for raising both the outer and inner ends of the finger bar, by which the driver, when in his seat, by operating a single lever moving in one direction in a plane substantially parallel with the sides of the driving wheels, can raise the entire cutting apparatus, and support it upon the driving wheels, for the purposes set forth.

Fifth, in two-wheeled machines having a hinged finger bar and a loose pole, and having its driver's seat controlled by the pole instead of the frame of the machine, so arranging the levers that raise the inner and outer ends of the finger bar that as these levers are operated the outer end of the finger bar shall be raised higher than the inner end, for the purposes set forth.

Sixth, it is not claimed forming a guard finger in a single piece, nor forming it in such a manner as to cover the sickle bar and have openings in its under side for the escape of grass and other substances, as such a form of guard finger has been known, but a guard finger made in a single piece covering the sickle bar, and having openings in the bottom thereof for the escape of grass and other substances entering with the sickle, when such guard finger is provided with a bearing surface, as *i*, connecting the upper and lower portions of said guard finger, and resting against the edge of the finger bar and braced and sustained against lateral strain, as herein set forth.

No. 2,048.—C. E. GRAY, New York, N. Y.—*Apparatus for Rendering Lard, Tallow, &c.*—Patented January 31, 1865; reissued August 8, 1865.

Claim.—First, making a close water jacket, in combination with the tank and a part of it, and arranging said water jacket, so made a part of said tank, in direct communication with the furnace, so that the water jacket shall intervene between the fire and the tank, and act as a means of conducting and distributing the heat from the fire to and around the substance contained in the tank.

Second, using the steam generated in a close tank from the constitutional water in the fat for the purpose of aiding and controlling the escape of the noxious gases and vapors, either to a superheater, for consumption in the furnace, or to a deodorizer, for the purpose of condensing them, in the manner substantially as described, for the purpose specified.

No. 2,049.—C. E. GRAY, New York, N. Y.—*Apparatus for Rendering Oils and Fats.*—Patented August 18, 1863; reissued August 8, 1865.

Claim.—First, in connection with the digester, the use of a second steam-tight vessel, for receiving melted fat or other fluid material that may have been cooked under steam pressure, and for cooling down and purifying the same until it is in a proper condition for exposure to the atmosphere, substantially as described.

Second, the placing of a glass tube in the draw-off pipe from the digester or similar apparatus for the treatment of material under steam pressure, for the purpose specified, substantially as before described.

Third, in combination with the digester or receiver, the use of the jointed delivery pipe V, supported near the surface of the fluid fat by the floats, as by W W, for the purpose of drawing off the supernatent contents of the receiver or tank automatically.

No. 2,050.—A. P. WINSLOW, Cleveland, Ohio.—*Roof for Railroad Car.*—Patented August 9, 1859; reissued August 8, 1865.

Claim.—First, the plates D, caps F, and grooved rafters B, when arranged substantially as herein set forth, for the purpose described.

Second, forming an air chamber G between the sheeting or roof A and plates D, when arranged as herein described, for giving free circulation of air to cool the car, and at the same time allow the water, dust, &c., to pass off at the end of said plates.

No. 2,051.—JOHN S. LASH, Philadelphia, Penn.—*Washing Machine.*—Patented October 14, 1862; reissued August 15, 1865.

Claim.—The combination with the wash-box and its rolls or rubbing surface of a reciprocating washboard, connected by elastic or yielding arms *d* to a cross-bar *e*, that moves and is guided in grooves *f* in the side of the wash-box, as and for the purpose herein described and represented.

No. 2.052.—JOHN S. LASH, Philadelphia, Penn.—*Wringing Machine.*—Patented October 14, 1862; reissued August 15, 1865.

Claim.—In combination with a permanent frame, carrying one roller, a vertically moving gate, carrying another roller, the journals of said rollers mutually passing through slots in the frame and gate, to keep them in proper working position, and said gate being moved and held down to keep its roller in close-working contact with the frame roller by means of a lever and pitman, as herein described and represented.

No. 2,053.—WILLIAM A. REILLY, Cincinnati, Ohio.—*Lathe Chuck.*—Patented May 30, 1865; reissued August 15, 1865.

Claim.—First, the combination with the face plate of a lathe chuck of the mandrel E, the arm I, and adjustable slide H, arranged substantially as and for the purpose described.

Second, the above described lathe chuck provided with the adjustable slide H, carrying the arm I and adjustable slide K, substantially as and for the purpose set forth.

No. 2,054.—JACOB E. BUERK, Boston, Mass., assignee of JOHN BUERK.—*Watchman's Time Detector.*—Patented January 1, 1861; reissued August 22, 1865.

Claim.—First, the use of a movable strip, made of paper or other suitable material, and marked off in a convenient number of parts, in combination with a chronometer movement, and with one or more points or devices for producing marks or indentations on said movable strip, substantially as and for the purpose set forth.

Second, the employment of a series of keys C with bits of different shape, in combination with spring points B and with a drum A, carrying a strip of paper F, and rotating by a clock movement, substantially as and for the purpose specified.

No. 2,055.—R. V. JONES, Canton, Ohio.—*Meat Cutter.*—Patented November 2, 1865; reissued August 22, 1865.

Claim.—First, the combination of a shaft provided with spiral flanges, with a concave case provided with ribs upon its internal surface, the two being used and operating as and for the purpose herein specified.

Second, the combination of a shaft provided with spiral flanges, with a knife or knives, used in a concave case, as and for the purpose herein specified.

Third, the employment of a spiral flanged shaft in combination with and revolving in a ribbed case provided with a stationary knife or knives, as and for the purpose herein specified.

No. 2,056.—G. W. RAY and V. N. TAYLOR, Springfield, Mass., assignees of A. H. HOOK.—*Apparatus for Folding Paper Collars.*—Patented March 7, 1865; reissued August 22, 1865.

Claim.—The elastic folding surface, whether in an inclined or other position, on which the knife acts in folding, as herein described, in combination with the gauges *m*, substantially as and for the purpose set forth.

No. 2,057.—JONATHAN AMORY, West Roxbury, Mass.—*Steam Boiler Furnace.*—Patented April 19, 1859; reissued August 29, 1865.

Claim.—The method of increasing the combustion and protecting combustion curves, substantially as described.

No. 2,058.—JONATHAN AMORY, West Roxbury, Mass.—*Steam Boiler Furnace.*—Patented April 19, 1859; reissued August 29, 1865.

Claim.—First, admitting into the fire-box or chamber of furnaces heat generators, so as to impinge upon and mix with the flame or products of combustion of atmospheric air, by means of and in combination with conduits or receptacles so arranged within, or in relation to said furnace or heat generator, as to heat the air to the proper degree of temperature during its passage to the said fire-box or chamber, in the manner and for the purposes hereinbefore set forth.

Second, the herein described method of generating heat; that is to say, forming gaseous fuel by burning coal or other solid fuel as described, and conveying such gaseous fuel to a separate chamber, there to be consumed by combining with heated air, as set forth.

Third, the combination of a fire-chamber of ordinary or suitable construction for burning solid fuel and for producing combustible gases, with a combustion chamber in which said combustible gases are mixed with air and burned, in the manner hereinbefore described.

No. 2,059.—C. L. W. BAKER, Hartford, Conn.—*Broom.*—Patented June 11, 1861; reissued August 29, 1865.

Claim.—An improved article of manufacture consisting of a broom, being composed of the fibre of broom corn set in tufts in a block of wood, substantially in the manner as and for the purpose described.

No. 2,060.—EDWARD D. BARRETT and H. B. BIGELOW, assignees of E. D. BARRETT, New Haven, Conn.—*Steam Engine.*—Patented January 19, 1865; reissued August 29, 1865.

Claim.—First, imparting to the valve of the auxiliary cylinder a positive movement from the piston of the principal cylinder by means of the tappet G, and rocker F, for the purpose of admitting and exhausting steam to actuate the pistons of the auxiliary cylinder, when the said pistons are constructed of equal areas, and arranged substantially as described, and the steam which actuates them received direct from the boiler for the purpose of operating the valve or valves of the principal cylinder, substantially as and for the purpose set forth herein.

Second, the pistons P and P′, constructed and arranged relatively to the passages *d d′*, so as to operate in the manner and for the purpose substantially as set forth.

Third, the arrangement of the check valves I I′, and passages E and E′, in relation to the passages D and D′, and the main valve, substantially as set forth.

No. 2,061.—R. E. CAMPBELL, New York, N. Y., assignee of THOMAS TRIPP, Buffalo, N. Y.—*Propeller Wheel.*—Patented November 22, 1859; reissued August 29, 1865.

Claim.—A propeller wheel having blades formed in respect to their main propelling surfaces, and in respect to their outward areas, substantially as herein described.

No. 2,062.—ATLAS L. STOUT, WILLIAM M. MILLS, and JOHN TEMPLE, assignees by mesne assignments of ELIJAH ROBERTS, deceased, Dayton, Ohio.—*Gates for Water Wheels.*—Patented April 4, 1854; reissued August 29, 1865.

Claim.—First, the combination of a ring and rods, with suitable mechanism for simultaneously and uniformly opening a series of gates of submerged centre vent water wheels, at a single operation, above the water line, whereby the water admitted to the wheel may be easily regulated, substantially as described.

Second, connecting rods with the gates, so that the former may freely slide through the latter in the manner described, to permit the gate to be closed by hydrostatic pressure, for the purpose specified.

No. 2,063.—OSCAR M. DRAPER, assignee of VIRGIL DRAPER, North Attleboro, Mass.—*Die for Stamping Rings.*—Patented May 24, 1864; reissued September 5, 1865.

Claim.—The combination of the separate removable centring piece *a*, with the punch C, the die *b*, and the mould plates A and B, or their mechanical equivalent, the whole being substantially as specified.

No. 2,064.—ROBERT W. GARDNER, Quincy, Ill.—*Steam Engine Governor.*—Patented August 14, 1860; reissued September 5, 1865.

Claim.—First, the governor operated as described, namely, by using the centrifugal force of the pendulum balls to close the valve, and the gravitation of the adjustable weight on the lever to open said valve, the two forces working against and independent of each other, substantially as herein specified.

Second, the spindle *o* of the governor, supported on the head of the valve stem, but unconnected therewith, in combination with a weighted lever tending to keep the several parts in close contact, and partly balancing the weight of the moving parts of the governor, substantially as and for the purpose described.

Third, the toes *l′*, on the upper end of the pendulous arms *l*, in their arrangement with the sliding block or cap *n*, and vertical valve rod *o*, constructed and operated substantially as and for the purpose described, whereby the upward vibration of the governor arm is caused to act immediately and independently to close the valve in opposition to the influence of the weighted lever.

Fourth, the combination of the lever *p*, adjustable weight *q*, link *r*, step *g*, valve rod *e*, spindle *o*, and pendulum arms *l*, all constructed and operating substantially as and for the purposes herein specified.

No. 2,065.—WILLIAM MILLER, Cincinnati, Ohio.—*Hoisting Machine.*—Patented May 12, 1863; reissued September 5, 1865.

Claim.—First, elevating or depressing the platform of a hoisting machine or elevator, by means of travelling worm wheels gearing with corresponding screw jacks or segmental nuts.

Second, the combination of the described or equivalent actuating mechanism, platform worm racks, and worm wheels, for the purposes set forth.

No. 2,066.—WILLIAM MILLER, Cincinnati, Ohio.—*Hoisting Machine.*—Patented July 4, 1865; reissued September 5, 1865.

Claim.—First, elevating or depressing the platform of an elevator or hoisting machine, by

means of a single travelling worm wheel which meshes within two or more corresponding screw racks or segmental nuts.

Second, an elevating platform, supported by rollers G, or their equivalents, on a single worm wheel resting in worm racks or segmental nuts, substantially as set forth.

No. 2,067.—B. S. ROBERTS, U. S. army.—*Breech-loading Fire-arm.*—Patented September 23, 1862; reissued September 5, 1865.

Claim.—The relative position of the breech-piece hinge and spur to the line of bore by which a muzzle-loading musket may be converted into a breech-loader, which is capable of partially retracting a metallic cartridge without the necessity of cutting entirely through the stock or barrel of the arm, substantially as described.

No. 2,068.—B. S. ROBERTS, U. S. army.—*Breech-loading Fire-arm.*—Patented September 23, 1862; reissued September 5, 1865.

Claim.—The adaptation of arms, such as described, to the use of metallic cartridges, in combination with a hammer, a projection from the breech-piece and a lock of the breech-piece, when these three elements are so constructed and arranged as to prevent the arm from being fired in the usual way until the breech-piece is locked against its upward tendency, caused by the pressure of the gas during a discharge of the arm, substantially as described.

No. 2,069.—HUGH L. MCAVOY and ELIAS S. HUTCHINSON, Baltimore, Md., assignees of HUGH L. MCAVOY.—*Apparatus for Carburetting Air.*—Patented December 13, 1864; reissued September 5, 1865.

Claim.—First, generating gas by forcing air through, or mixing it with, hydrocarbon fluid, by means of a partially submerged air-forcing apparatus, arranged substantially as described, to pass the air through the wheel.

Second, using an air-forcing apparatus within a chamber supplied with air, through an automatic valve, or by any other means adapted to prevent the evaporation of the fluid when the apparatus is got in operation.

Third, the employment, in connection with the vessel A and air-forcing apparatus B, of a valve H, adapted to automatically open when the apparatus is in operation, for the purpose of supplying air to be carburetted, and to close when the operation is suspended, in order to prevent the oil from evaporating, as explained.

No. 2,070.—ALBERT D. BRIGGS, Springfield, Mass.—*Truss Bridge.*—Patented July 27, 1858; reissued September 12, 1865.

Claim.—First, the method of increasing the bearing surfaces for the blocks *d d e e*, by the employment of the blocks or keys *c c*, fitted between the chord sticks and between the bearing blocks *d d e e*, substantially as described.

Second, the employment of the blocks *h h*, fitted between the bearing blocks *d d e e*, on the outside of the chord sticks, substantially as set forth.

No. 2,071.—J. C. BROWN, Brooklyn, N. Y.—*Machine for Cutting Splints.*—Patented June 21, 1864; reissued September 12, 1865.

Claim.—First, the cutter cylinder *c*, when the cutters are placed diagonally thereon in the manner described, so that the angle of each cutter relatively to the axis of the cylinder shall be opposite to the next cutter and alternate cutters parallel to each other, whereby the cylinder revolving, as described, will cut the splints tapering, substantially as and for the purpose specified.

Second, the cutter cylinder *c* and the fixed cutter *a*, when combined and arranged as substantially set forth.

No. 2,072.—JOHN L. KNOWLTON, Philadelphia, Penn.—*Saw-mill.*—Patented October 20, 1863; reissued September 12, 1865.

Claim.—In combination with the circular frame that holds and turns the saw sash or frame, the guides *j j*, between which the sliding block moves that transmits motion to the saw, so that the saw and the block shall always be in the same plane, and always move together without cramping and binding, substantially as set forth.

Also, so arranging the crank wheel shaft and the ring frame as that the former shall be in a plane that shall pass through the opening of the ring frame, and as nearly central to said ring as practicable with my construction, so that the two, while connected, may move on as nearly common centres as possible, to avoid all binding of the parts, and undue friction to the driving mechanism, as described.

No. 2,073.—JOHN D. WILLIAMS, Alleghany City, Penn.—*Manufacture of Iron.*—Patented August 8, 1865; antedated July 9, 1865; reissued September 19, 1865.

Claim.—The use of the ingredients herein named, and their equivalents, and the mode of using them, and the manner of operating the furnace, substantially as described, and for the purpose set forth.

No. 2,074.—CALVIN A. LITTLEFIELD and DAVID BOYLE, Covington, Ky., assignees of CALVIN A. LITTLEFIELD.—*Fire-place.*—Patented September 11, 1860; reissued September 26, 1865.

Claim.—First, the provision or attachment to an open fire-place or grate of the bonnet D, constructed and applied to catch the smoke and form a ledge or shelf over the fire, substantially as set forth.

Second, the arrangement of the bonnet D, hollow crown E, partition *e*, tube H, flues B B′, apertures K F G, and doors *f* and *k*, constructed, combined, and operating in the manner and for the purposes set forth.

No. 2,075.—EDWARD B. MANNING, Cornwell, Conn.—*Tea and Coffee Pot.*—Patented June 3, 1862; reissued June 27, 1865; again September 26, 1865.

Claim.—The herein-described tea or coffee pot, in which the bottom and lower portion of the body is constructed of hard metal, as iron, united to a britannia or other metal body in the manner described, when the said hard metal bottom and body are formed in the manner described, and united to the upper portion of the body a sufficient distance from the bottom to protect the joint and upper portion of the body from the effects of heat, as and for the purpose specified.

No. 2,076.—JOSIAH M. REED, Boston, Mass.—*Cook Stove and Range.*—Patented November 8, 1859; reissued September 26, 1865.

Claim.—The application to a cooking stove, range, &c., of an auxiliary heating space or flue, substantially in the manner and to operate as hereinbefore described.

No. 2,077.—JOSEPH B. SARGENT, New Britain, Conn.—*Head or Screw for Picture Frames.*—Patented August 21, 1860; reissued September 26, 1865.

Claim—A picture nail or screw, provided with an ornamental head made in parts, connected together substantially as described.

No. 2,078.—ANDREW WINTERBURN, Albany, N. Y.—*Grate for Furnaces.*—Patented November 3, 1863; reissued September 26, 1865.

Claim.—A grate having in its bed a revolving axis, with its appurtenances so contrived that, by its revolution, the contents of the grate shall be agitated, in combination with an extended bed, so contrived and arranged that it can make a partial or entire revolution around its own axis, by which means the contents of the grate can be discharged into the ash pit, substantially as and for the purpose described.

Also, the axis E and disks H, in combination with the revolving frame B, constructed and operating substantially as and for the purpose described.

No. 2,079.—RUFUS DUTTON and RICHARD L. ALLEN, assignee by mesne assignments of RUFUS DUTTON, New York, N. Y.—*Mowing Machine.*—Patented March 15, 1864; reissued October 3, 1865.

Claim.—First, changing the cutting apparatus from front to rear and from rear to front of the wheel of the machine, by means of detaching and reversing the parts of the gear casing C D, draught rod C′, and cross-bar A, substantially as set forth.

Second, bending the cross-bar A, substantially as described, for the purpose of depressing the end of the casing, together with the crank shaft in rear-cutting machines, and elevating the same in front-cutting machines, substantially as set forth.

Third, the construction of the draught rod C′, with a bend or curve at one end, as described, whereby such rod is adapted, on being reversed, for use either in front or rear-cutting machines, substantially as and for the purposes set forth.

Fourth, so attaching the line of draught in harvesting machines as to counteract the tendency of the gear to rotate the frame on the axle, and also prevent the shoe rising from the ground in rear, cutting and pressing or riding upon the ground in front-cutting machines, substantially as set forth.

Fifth, in machines having two driving or supporting wheels, and also a hinged finger bar, and loose pole, and in which the driver's seat is controlled by the pole or shafts instead of being controlled by the frame of the machine, the frame of the moulding being also supported directly from and by the axle and not from the pole, attaching the draught rod or chain to the shoe, or to such part of the frame as receives an upward and downward motion from the shoe as it passes over uneven ground, the whiffletree or evener to which the forward end of the draught rod or chain is attached being so connected to or supported from the pole or shafts that it can have a forward and backward movement as the shoe rises and falls, for the purposes set forth.

No. 2,080.—P. ELDRIDGE GARVIN, Philadelphia, Penn.—*Mechanism for Scaling Boiler Tubes.*—Patented August 8, 1865; antedated March 22, 1865; reissued October 3, 1865.

Claim.—The combination of the revolving cutter E, the stationary guide and feeding screw rod D, and the centring draught dog H, as and for the purpose as herein specified and described.

No. 2,081.—RUSSELL JENNINGS, Deep River, Conn.—*Auger.*—Patented September 30, 1865; reissued October 3, 1865.

Claim.—The projecting of the floor lips in advance of the cutting spur, when said cutting edges are on parallel lines not passing through the axis of the auger, and are horizontal on their cutting line, as and for the purposes substantially set forth.

No. 2,082.—H. C. SERGEANT, Columbus, Ohio.—*Steam Boiler.*—Patented August 22, 1865; reissued October 3, 1865.

Claim.—First, the combination of the metal cylinder or casing around the fire surface, with the fire box and reservoir for a body of water upon the crown sheet.

Second, the combination of the fire flue and casing around, when so arranged as to receive the water from the crown sheet and convey it upward in contact with the flue.

Third, so arranging the casing around the fire surface of the boilers as to allow the steam to come in contact with one side of the casing, while the current of water is in contact with the other side, substantially the same as specified in the foregoing specifications.

No. 2,083.—THOMAS D. BURRALL, Geneva, N. Y.—*Corn Sheller.*—Patented December 6, 1845; extended seven years; reissued October 10, 1865.

Claim.—First, the opening *d*, in combination with the plate or disk *c* and the sheller, substantially as and for the purpose described.

Second, the open space between the lower edge of the sheller and the plate or disk *c*, in combination with said plate or disk and the sheller, substantially as and for the purpose described.

No. 2,084.—LEVI DODGE, Waterford, N. Y.—*Forming and Punching Articles of Irregular Form.*—Patented March 12, 1851; reissued October 10, 1865.

Claim.—First, as my improvement in the manufacture of axes and other articles of iron, punching the same when the part to be punched is enclosed in conforming dies made to open and close in the manner herein set forth.

Second, the combination of a punch with swinging matrices constructed and arranged relatively to each other substantially as herein shown and described.

Third, in combination with a punch and movable dies for punching and shaping articles of iron by their simultaneous action or pressure on the sides of said articles, as described, the employment of cams, or the equivalents thereof, to actuate automatically the dies to open and close, substantially in the manner and for the purpose set forth.

No. 2,085.—ABIJAH FESSENDEN, Boston, Mass.—*Tobacco Pipe.*—Patented November 29, 1864; reissued October 10, 1865.

Claim.—Dividing the bowl of the tobacco pipe into three or more chambers, substantially as and for the purposes described.

No. 2,086.—AMERICAN WATER-PROOF CLOTH COMPANY, assignee by mesne assignments of J. F. GREENE.—*Obtaining Fibres from Waste Felted Fabrics.*—Patented April 12, 1859; reissued October 10, 1865.

Claim.—First, subjecting the felts to be disintegrated to the successive and combined action of steam and picking, substantially as described, the steam having the effect either to unfelt or so loosen the hold which the fibres have on each other in felted fabrics that they can be drawn apart of sufficient length to be advantageously employed in the manufacture of felts or other fabrics.

Second, subjecting the felts which are to be disintegrated to the action of steam, for the purpose of loosening the fibres preparatory to the action of the machinery, as hereinbefore described.

Third, the application of sal soda, or other equivalent chemical agent, in solution with heat, for the purpose of extracting the glue, mastic cement, or gums from the felts, in the manner hereinbefore described.

No. 2,087.—GEORGE J. WARDWELL, Rutland, Vt., assignor to the STEAM STONECUTTER COMPANY, New York, N. Y.—*Stone-cutting Machine.*—Patented November 10, 1865; reissued October 10, 1865.

Claim.—First, a stone-cutting channelling machine, which is constructed to move upon a track, and provided with reciprocating cutters, which are supported in standards, arranged on the outside of the frame and outside of the said track, substantially as described.

Second, the combination of two or more cutters, in gangs connected together by means of head and foot clamps, which are adapted to slide freely between standard guides R R, that are supported on one side of the frame of the machine, substantially as described.

Third, providing for reversing the removable cutters S, by hinging the outside standard R, so that it can be opened or closed at pleasure, substantially as described.

Fourth, the combination of the vibrating beam M and reciprocating cutters S, connected in such manner that the said beam operates upon the cutters in its ascending stroke, as well as in its descending stroke, substantially as described.

Fifth, the combination of a spring *w*, vibrating beam M, and reciprocating cutters S, substantially as described.

Sixth, the serrated cutter stems, in combination with the serrated head clamp T, substantially in the manner described.

Seventh, the application of packing blocks *c'* to the head and foot clasps T U, substantially as described.

Eighth, the standards R, arranged on the outside of a portable frame A, substantially as and for the purposes specified.

No. 2,088.—GEORGE J. WARDWELL, Rutland, Vt., assignor to the STEAM STONECUTTER COMPANY, New York, N. Y.—*Stone-cutting Machine.*—Patented November 10, 1863; reissued October 10, 1865.

Claim.—First, giving a forward or backward movement to the stone-cutting machine at pleasure, and simultaneously with the upward stroke of the reciprocating cutters S, and confining said machine positively in position upon its track during the descending stroke of the said cutters, substantially in the manner described.

Second, the double-acting feed arm *g'*, connecting rod *u'*, vibrating lever *r'*, combined and operating substantially in the manner described.

Third, accelerating the descent of the cutters S, by means of a spring W, applied to the beam M, substantially as described.

Fourth, connecting the cutters S to the beam M, or its equivalent, by means of straps *g f*, substantially in the manner described.

Fifth, the clamps T U, constructed and applied to the cutters S, substantially as described, and adapted to receive the guides on the standards R, substantially as set forth.

Sixth, securing the cutters together rigidly by means of clamps or clasps, which receive teeth or projections formed on said cutters, substantially as described.

No. 2,089.—WILLIAM T. ANDERSON and HEZEKIAH S. ARCHER, Brooklyn, N. Y.; assignees of WILLIAM T. ANDERSON.—*Embossed Cover of Books.*—Patented July 5, 1864, reissued October 17, 1865.

Claim.—A book cover made by striking up a foundation of junk board or other material to form the foundation of the cover, and filling in the raised portions on the inner side by blocks of any suitable material, substantially as and for the purpose set forth.

Also, combining with the board A, struck up as described, the inner board C, substantially as and for the purpose set forth.

No. 2,090.—JAMES BRODIE, San Francisco, Cal.—*Apparatus for Collecting the Dust from Stamp Mills and Ore Crushers.*—Patented May 17, 1864; reissued October 17, 1865.

Claim.—The application of the wind blast through pipes or tubes into or by suction out of batteries or other crushing machines, as exhibited and applied in the drawings, for the purpose of saving the fine dust arising from said crushings.

No. 2,091.—IRA C. and T. W. FLAGG, Middletown, Conn.—*Rowlock.*—Patented August 15, 1865; reissued October 17, 1865.

Claim.—Constructing the horns of rowlocks with a dove-tail groove *a*, to receive and hold the pad *b*, substantially as herein set forth.

No. 2,092.—SAMUEL P. KITTLE, Brooklyn, N. Y.—*Spring Mattress.*—Patented November 8, 1864; reissued October 17, 1865.

Claim.—First, the combination of the two parts A and A', and an intervening portion of the sides of the box of a box spring mattress, having the cases containing the stuffing attached to the said sides, the said parts A A' and the intervening portion being connected to each other by hinges, the joints of which are located twice the distance apart of the thickness of the stuffing, substantially as herein above set forth.

Second, the combination of the two parts A A', hinged at two points the distance apart of twice the thickness of the stuffing, the intervening part A and a series of springs supported upon slats attached to the said intervening portion A'', the whole being constructed and operating substantially as herein above set forth.

Third, the combination of the parts of the box containing the springs, and connected by hinges at two points the distance apart of twice the thickness of the stuffing, with the case for the stuffing gathered at the hinges or joints, as set forth.

Fourth, providing the hinge C with perforations for attaching the ticking, substantially as set forth.

Fifth, the combination with the box containing the springs of braces or strengthening pieces P or Q at the point or points where it is cut or hinged, substantially as and to the effect set forth.

Sixth, the combination of the parts of a box spring mattress and a hinge constructed and attached to both the edge and side of the boards which form the side of the box, in the manner herein above described.

Seventh, the combination and arrangement of the catch N with the adjacent slats F and F of the box of the mattress, substantially as and for the purpose set forth.

No. 2,093.—JAMES MINTER, Worcester, Mass., assignor to himself, JONATHAN HOPE, and ROBERT H. BUTCHER.—*Bolt-heading Machines.*—Patented July 12, 1864; reissued October 17, 1865.

Claim.—First, forming the heads of bolts by the squeezing action of the heating dies G G′, G*, and G′*, operating in pairs substantially as described, in connection with the upsetting die H, substantially as set forth.

Second, the dies G G′, G* G′*, arranged in combination with each other and with their adjusting screws, substantially as specified, so as to be readily adjustable to different sizes and shapes.

Third, the spring dogs *f f′ f* f′**, carriers I I′ I* I′*, with their shoulders and the dies G G′ G* G′*, in combination with the piece K, or its equivalents, and the foot lever L, when constructed and operating in the manner and for the purposes described.

Fourth, the combination of the elastic plate *p* with the dog *g** and heading die, constructed and operating as set forth.

Fifth, the lever *o′* and cam P in combination with the foot levers L and the forming the mechanisms as described, so that said cam shall control the time of action, as set forth.

Sixth, the combination of the hand lever R, swivel arm W, and movable jaw *q′*, when constructed and operating substantially as specified and for the purposes set forth.

No. 2,094.—ROBERT A. CHESEBROUGH, New York, N. Y., assignee of J. S. WARREN, Stafford, N. Y.—*Cartridge Box.*—Patented June 28, 1864; reissued October 17, 1865.

Claim.—The general arrangement of the cartridge box herein described, the same consisting of an outer box or casing, in the interior of which a box, divided into compartments suitable for the reception of cartridges, either loose or fixed, is hung by means of the peculiar shaped link or joint described, arranged and operating substantially as and for the purposes specified.

No. 2,095.—ISAAC NEWTON PIERCE, Philadelphia, Penn.—*Composition for Slate Surface Blacking, &c.*—Patented February 10, 1863; reissued October 24, 1865.

Claim.—The use of benzine or petroleum spirits and ground feldspar, or emery, or quartz, or other silica, in forming a real stone surface, making use of varnish to make it easier in application, and render it more adhesive, and lampblack or other coloring matter for a coloring, substantially as set forth, constituting the surface, and its application in the manner and for the purpose specified.

No. 2,096.—DANIEL E. SOMES, Washington, D. C., assignee by mesne assignment of himself.—*Curing Provisions.*—Patented November 13, 1860; reissued October 24, 1865.

Claim.—First, constructing packing houses and other similar buildings and structures, for the purpose of salting, curing, preserving, and storing articles of food, hides, and other sub stances, substantially in the manner herein set forth and described.

Second, salting, curing, and preserving food, hides, &c., in shafts and vaults excavated in the earth to a depth sufficient practically to attain the lowest invariable temperature of the earth at the place where they are sunk, as set forth and for the purpose specified.

Third, cooling such excavations and shafts by artificial means, in the manner and for the purpose set forth.

No. 2,097.—JOHN STEVENS, New York, N. Y.—*Shirt-bosom Folder.*—Patented November 9, 1858; reissued October 24, 1865.

Claim.—The tins or metal strips aforesaid, when arranged with an adjusting mechanism to admit of wide and narrow plait or plaits, varying in width, being formed with one and the same set of tins or strips, substantially as described, for the purpose specified.

No. 2,098.—EZEKIEL MONTGOMERY, HENRY MONTGOMERY, and M. E. MONTGOMERY, Silver Creek, N. Y., assignees of HENRY MONTGOMERY and SIMEON HOWES.—*Grain Separator.*—Patented February 22, 1859; reissued October 31, 1865.

Claim.—Subjecting the light grain, after it has been separated from the heavy grain and carried over into the utilizing chambers, to a counter current of air, for the purpose of further cleaning the light grain and delivering it from the machine in a fit condition for feed, substantially as set forth.

No. 2,099.—JOHN REILLY, White Pigeon, Mich.—*Harvesting Machine.*—Patented November 20, 1855; reissued October 31, 1865.

Claim.—First, a grain guard or cut-off, which remains out of the way of the falling grain until a gavel of proper size has accumulated; is then interposed between the platform and reel to receive and support the falling grain, and remains there until the gavel already accumulated has been removed, when it is withdrawn, the movements of the cut-off being parallel to the path of the machine, for the purposes set forth.

Second, the combination in a harvesting machine of a cutting apparatus and platform, with a grain guard or cut-off, the combination being and operating substantially as described.

Third, the combination, substantially in the manner described, in a harvesting machine, of a cutting apparatus, a platform, and a reel, with a grain-guard or cut-off, arranged behind and moving in the same vertical plane as the reel, for the purpose of separating the grain swept back by the reel into gavels suitable for binding.

Fourth, the combination in a harvesting machine of a cutting apparatus projecting from one side of the main or gearing frame, and a hinged or swinging platform, with a grain guard or cut-off vibrating over the platform.

Fifth, the combination in a harvesting machine of a reel, a cutting apparatus, a hinged or swinging platform, and a cut-off.

No. 2,100.—JAMES B. BROWN, Peekskill, N. Y., assignee of JULIUS AUGUSTUS ROTH.—*Manufacture of Paper Pulp.*—Patented August 15, 1865; reissued November 7, 1865.

Claim.—The process, substantially as herein described, of subjecting fibrous vegetable substances to the action of chlorine gas, and for the purpose specified.

No. 2,101.—FREDERICK F. CORNELL, Jr., New York, N. Y.—*Baling Press.*—Patented June 20, 1865; reissued November 7, 1865.

Claim.—First, the employment or use in a beater baling press, of a suspended follower, in combination with a beater used as a fixed head.

Second, connecting the levers D to the sliding sides E and follower B, by means of the staples or eyes *b*, and fulcrum pin *d*, and rods *e e*, or their equivalents, substantially as herein described.

Third, the pawls H, so arranged as to engage automatically with the racks I, upon the descent of the beater into the press chamber, thereby preventing its rebounding, and at the same time holding it in position to serve as a head block for the press, substantially as and for the purpose herein described.

Fourth, the racks I and slides I′, in combination with the pawls H, as and for the purpose pecified.

Fifth, the standards F F and cross beam G, in combination with the rod *h* and pawls H, arranged to operate substantially as described.

Sixth, the detent rod *f′*, in combination with the projections *f* and standards F F, substantially as and for the purpose hereinbefore described.

Seventh, the cam J, in combination with the travelling sides E and post A, substantially as and for the purpose herein specified.

No. 2,102.—REUBEN HOFFHEINS, Dover, Penn.—*Harvester.*—Patented November 3, 1863; reissued November 7, 1865.

Claim.—First, the combination in a two-wheeled, hinged-joint machine, of a driver's seat mounted upon the main frame, with a raking mechanism mounted upon the finger-beam and rotating on a vertical axis, or one nearly so, substantially in the manner described, for the purpose of enabling the driver to ride upon the machine while the rake is in operation.

Second, the combination in a two-wheeled, hinged-joint machine, of a shoe with a hinged joint in it, with a rake and platform having an extension J2, and with a draught frame which sustains the weight of the cutting apparatus and raking apparatus, with a platform attached at a point between the two drive wheels.

Third, the combination with a hinged-joint machine of the inner shoe and raking apparatus, substantially as described.

Fourth, the combination of a revolving or turning rake, extensible tumbling shaft, and driving shaft or axle of the main frame, substantially as described.

Fifth, the combination of a two-wheeled, hinged-joint machine, a raking apparatus and a driver's seat mounted on the main frame, substantially as described and for the purpose set forth

No. 2,103.—GAIL BORDEN, America, N. Y.—*Condensing Milk.*—Patented August 19, 1856; reissued May 13, 1862; again February 10, 1863; again November 14, 1865.

Claim.—First, the within-described process or method of operation for concentrating and preserving milk, by means of coagulating and rearranging the albuminous particles in combination with the evaporation of the fluid in vacuo.

Second, the preparatory coagulating and rearranging of the albuminous particles, when this is done as a part of the operation of making concentrated or condensed milk.

No. 2,104.—GEORGE H. and JOHN T. CLARK, Meriden, Conn., assignees by mesne assignments of EDGAR B. BEACH.—*Self-centring Chuck.*—Patented September 6, 1864; reissued November 14, 1865.

Claim.—First, forming the guides for the longitudinally sliding jaws in that part of the chuck by the turning of which the closing of the jaws is produced, substantially in the manner herein set forth.

Second, the inclined converging guide ways *c*, in combination with the jaws C, head D, and screw spindle A, constructed and operating in the manner and for the purposes substantially as herein shown and described.

No. 2,105.—CHARLES H. ROBINSON, Bath, Me.—*Baling Press.*—Patented January 10, 1865; reissued November 14, 1865.

Claim.—First, as an invention and improvement in toggle-lever presses, fixing the first of the three pivots of the toggle levers or links at, to, or near the platen; the second pivot to the follower, and moving the second pivot toward the first, and vibrating the third pivot so as to bring the toggle links or levers nearly or quite parallel in pressing the bale.

Second, working or operating the follower of the press, at the beginning of the pressing operation and while the cotton or hay is comparatively but little compressed by the direct action of the rope and pulleys, in combination with the subsequent working or operating of the follower by the toggle links or levers to complete the pressing of the bale or bundle.

Third, working the toggle links or levers by a rope or chain, arranged to run around pulleys at or in the opposite ends of the levers or links which carry the follower.

No. 2,106.—HOWARD TILDEN, Boston, Mass.—*Flour Sifter.*—Patented May 16, 1865; reissued November 14, 1865.

Claim.—First, a hemispherical or concave sieve, provided with a case frame or other proper support, for the purpose set forth.

Second, in combination with a concave sieve, a rotating stirrer for agitating the flour and forcing it through the sieve.

Third, in combination with a concave sieve, a rotary stirrer, armed and provided with flexible edges or scrapers adapted to press the flour through the sieve of the sifter.

No. 2,107.—W. P. VALENTINE, Fond-du-Lac, Wis.—*Shingle Machine.*—Patented March 22, 1859; reissued November 14, 1865.

Claim.—First, the carriages P and P′, connected by the spring L, and arranged to operate as and for the purpose herein set forth.

Second, giving to the carriages of a shingle machine a variable feed, substantially as and for the purpose set forth.

Third, the dogs *e c*, arranged to operate in connection with the spring *i* and lever *s*, or their equivalents, for the purpose of automatically locking and unlocking the block, as described.

Fourth, the tilting platform *f*, in combination with the shaft *r*, provided with the projections *m*, arranged to operate as shown, for the purpose of presenting the block to the saw in such a manner as to cut the butt alternately from opposite ends of the block.

Fifth, the ratchet wheel N, arranged to operate in connection with the pawl *t* of the carriage, as shown and described, for the purpose of imparting motion to the shaft *r* and thereby tilt the platform or frame *f*, as and for the purpose set forth.

Sixth, the double inclined ways, in combination with the carriages P and P′, when the latter are arranged to operate alternately on opposite sides of a single saw, as herein shown and described.

No. 2,108.—WILLIS HUMISTON, Troy, N. Y.—*Improved Candle Mould Apparatus.*—Patented July 24, 1855; reissued January 22, 1861; again reissued November 14, 1865.

Claim.—First, the combination of the candle tip mould *a* with the piston or ejecting rod D, in the manner and for the purposes substantially as herein described and set forth.

Second, the combination of the said candle tip mould *a*, arranged and combined with the said piston or ejecting rod D, with the vertical stationary candle mould B, in the manner and for the purposes substantially as herein described and set forth.

Third, the receiving of the candles in and by the vertical candle supporting bars F, in the position in which they are ejected or pushed from the vertical stationary candle moulds B, and the closing of the said bars F, with the candles therein, and thus and thereby holding them during the operation of the pouring into or filling the said moulds immediately below said receiving and supporting bars F, and thereby avoid the danger or liability of breaking the said candles or their tips, substantially as herein described and set forth.

Fourth, the adjusting and holding the wick for the candles in the centre of the said vertical stationary candle moulds B, by means of the said candle-reeceiving and supporting bars F, and the candles therein held or supported by means thereof, in connection with the candle tip moulds *a*, each arranged and operated in the manner substantially as herein described and set forth.

Fifth, the employment of the candle-receiving and supporting bars F, so constructed and arranged as to open laterally on a vertical line lengthwise of the same, to receive the ejecting candles, and to close with such candles therein, by the means substantially as herein described, and so arranged over and above the said vertical stationary candle moulds B as to hold said candles therein until the wick is severed betweeu thecandles so suspended and those moulded in said stationary moulds below, and thereby allow of the removal (when necessary) of such candle-receiving and supporting bars F, with said candles therein, in the manner substantially as herein described and set forth.

Sixth, the employment of portable candle-receiving or supporting bars F, which may be opened and closed laterally, on a vertical line lengthwise of the same, immediately above and near the centre of the vertical stationary candle moulds B, and so arranged and combined with the candle machine frame or trough C, that the same may, whenever desirable, be removed therefrom with the candles which have been ejected therein from the stationary moulds below, in the manner substantially as herein described and set forth.

Seventh, the holding of the candles F, suspended over and above the vertical stationary candle moulds in and by the said candle receiving and supporting bars F, while the said candle tip moulds *a* are being separated or drawn from the tips of the said candles by means of the lowering or downward movement of the platform E, to which the piston or ejecting rods D, are attached and combined, in the manner substantially as herein described and set forth.

Eighth, the employment of one or more springs R, constructed of spiral or other shape, in combination with the said vertical candle, receiving and supporting bars F, and operating between such bars, for the purpose of opening the said bars laterally on a vertical line lengthwise of the same, so as to allow the candles being ejected from the vertical stationary candle-moulds to enter or pass between the same in the manner substantially as herein described and set forth.

Ninth, a candle machine so constructed, arranged, and combined, that by one continued upward movement or operation of the platen or platform E, having thereto attached the said piston or ejecting rods D, three or more rows of candles will be ejected vertically from the vertical stationary candle-moulds, and into the candle receiving and supporting bars F opening laterally on a vertical line lengthwise of the same, at or near the centre thereof, and immediately over and above the said stationary candle-moulds B, in the manner substantially as herein described and set forth.

Tenth, the starting of the candles from the said candle-moulds B, by giving a sudden blow to the candle tip moulds *a*, and to the candles therein, by means of the upward movement of the platen or platform E, with the said piston or ejecting rods D, thereto attached, in the manner substantially as herein described and set forth.

No. 2,109.—LIVERAS HULL, Charlestown, Mass., assignor to himself and A. WHEELER, Boston, Mass.—*Process for Making Copal Varnish.*—Patented November 22, 1859; reissued November 21, 1865.

Claim.—A new manufacture of varnish, as composed of the gum copal or kowrie, or kauri, camphene, or its equivalent, and alcohol, united in the proportions substantially as specified.

No. 2,110.—GEORGE W. RAY and VARNUM N. TAYLOR, Springfield, Mass., assignees of ALBERT H. HOOK.—*Apparatus for Folding Paper Collars.*—Patented March 7, 1865; reissued August 22, 1865; again November 21, 1865.

Claim.—First, indenting and folding the collar by means of a blade or folder, upon a yielding or cushioned surface, substantially as herein described and set forth.

Second, the yielding or cushioned folding surface, whether in an inclined or other position, on which the blade acts in folding, as herein described, in combination with the gauges *m*, substantially as and for the purposes set forth.

No. 2,111.—THOMAS B. WEBSTER and THOMAS GANNON, New York, N. Y., assignees of THOMAS B. WEBSTER.—*Screw Press.*—Patented July 25, 1865; reissued November 21, 1865.

Claim.—First, in a double press having its followers arranged to work toward and from each other, the arrangement of the two followers and their connections and of the bearing of the screw, whereby the said bearing is rendered self-adjusting, or free to assume a central position between the followers, and each follower serves as the abutment to the other in the pressing operation, substantially as herein described.

Second, in a press provided with a right and left-hand screw spindle E, the gear wheels F G and cranks L I, or their equivalents, in combination with heads C, detachable nuts J J, toggle arms K K, and followers C C, situated on opposite sides of the spindle, all as herein shown and described.

Third, the eccentric shafts *d d*, geared together by cog-wheels *f f*, and operated by a hand wheel *g*, or its equivalent, in combination with the jaws *b b*, spindle E, and followers C C, constructed and operating substantially as and for the purpose specified.

No. 2,112.—LEWIS LILLIE, Troy, N. Y.—*Construction of Safes.*—Patented July 15, 1851, and extended seven years; reissued November 21, 1865.

Claim.—First, the employment of wrought iron and cast iron in combination, the same forming a safe, vault, or door, in the manner and for the purposes substantially as herein described and set forth.

Second, a safe, vault, or door, constructed of a series of wrought-iron bars and surrounded by cast iron, in the manner substantially as and for the purposes herein described and set forth.

Third, a safe, vault, or door, constructed of boiler-plate iron, perforated and riveted together by means of the rivets *b* and cast iron, in the manner and for the purposes substantially as herein described and set forth.

Fourth, a safe, vault, or door, containing cast iron chilled or hardened, in the manner and by the means and for the purposes substantially as herein described and set forth.

Fifth, a safe, vault, or door, constructed burglar-proof, in the manner and by the means substantially as herein described and set forth.

No. 2,113.—JONATHAN BALL, Elmira, N. Y.—*Mouth-piece for Cigars.*—Patented March 28 1865; reissued November 28, 1865.

Claim.—The mouth-piece for a cigar composed of a wooden tube and paper socket, substantially as herein described.

No. 2,114.—JOHN P. BAUGH, EDWIN P. BAUGH, and DANIEL BAUGH, Philadelphia, Penn., assignees of WILLIAM ADAMSON.—*Method of Treating Offal.*—Patented February 14, 1865; reissued November 28, 1865.

Claim.—First, utilizing offal by draining from it the greater portion of its fluid matter preparatory to the drying of the mass, for the purpose described.

Second, simultaneously drying and disinfecting offal, by subjecting it to the direct action of the products of combustion, substantially in the manner set forth.

No. 2,115.—P. W. GATES, Chicago, Ill.—*Method of Making Shoes and Dies for Quartz Stampers.*—Patented July 31, 1860; reissued November 28, 1865.

Claim.—First, producing shoes and dies for quartz-crushing machinery by casting in a metal mould an outer case or shell of metal about a central chilled metal core, substantially as described.

Second, in the operation of casting shoes and dies for crushing machinery, using a central core of metal and an external flask or mould, for the purpose of producing a shoe, or a die, which is composed of more than one piece of metal, and which has its outer shell chilled in a direction from its centre toward its circumference, as well as from its circumference toward its centre, substantially as described.

Third, a chilled cast metal shoe, constructed with a soft unchilled attaching stem, upon the lower chilled portion of which the shoe is cast, substantially in the manner and for the purpose described.

Fourth, making the projecting portion of the stem of a stamp head-shoe of taper form and of unchilled metal, while the body of the shoe is chilled, the shoe being cast upon the lower chilled portion of the stem, substantially as and for the purpose described.

Fifth, in the operation of casting a chilled shoe for stamping machinery, producing a chill upon the body of a shoe and enclosed portion of the stem, and leaving unchilled the projecting portion of the stem thereof, substantially as described and for the purposes set forth.

Sixth, a stamp head-shoe or die, which is chilled, substantially in the manner described, from centre toward the circumference and *vice versa*, and formed of more than one piece of metal, or of two pieces of metal cast one upon the other, and which are united or held together by means of the varying diameter of the central piece, substantially as set forth.

No. 2,116.—EDMUND A. HARVEY, Wilmington, Del.—*Machine for Cleaning Sheet Metal.*—Patented April 4 1865; reissued November 28, 1865.

Claim.—First, cleaning sheets of metal, by scrubbing and washing them, and preventing their being oxidized in consequence of moisture by afterwards subjecting such sheets to heat, and thus causing the moisture to be evaporated from their surfaces, substantially as described.

Second, the combination of the squeezing rollers E E, and a heater for quickly drying the sheets, substantially as described.

Third, the rotary brushes C C, in combination with the guides G G, and feed rollers B B, when so arranged as to clamp the sheets between them for the purpose described.

Fourth, the reciprocating brushes D D, in combination with the feed rollers B B, when so arranged as to clamp the sheets between them for the purpose described.

Fifth, in machines for cleaning sheet iron as described, in combination with the rotary or reciprocating brushes, the guides G G, which form a throat for directing the sheet metal to the brushes.

No. 2,117.—F. W. ROBINSON, Richmond, Ind.—*Sawing Machine.*—Patented September 5, 1865; reissued November 28, 1865.

Claim.—A drag saw in which the saw is rigidly attached to the saw bar, when said saw bar is provided with a slot at its rear and working upon or in guides situated at or near the driving shaft.

No. 2,118.—CHRISTIAN SHUNK, Youngstown, Ohio.—*Refining Iron.*—Patented February 12, 1856; reissued May 31, 1864; again November 28, 1865.

Claim.—The refining of molten crude iron from the ore or the remelted pig metal, by the employment and the application of compressed air forced in combining with the carbon of the crude metal, and thereby decarbonizing or partially decarbonizing the same and rendering it fit to mould into ingots, or into a mass of malleable refined iron to make blooms for forging or rolling purposes, and the use of common salt as a flux.

These claims are made jointly and separately.

No. 2,119.—WARREN and ANDREW GALE, Chicopee Falls, Mass., assignees by mesne assignments of A. S. MACOMBER, Bennington, Vt.—*Straw Cutter.*—Patented November 5, 1850, and extended; reissued December 5, 1865.

Claim.—First, the two flanged cylinders D D, or their equivalent, in combination with a stationary knife E, substantially as described, for the purpose of cutting food, rags, or other materials.

Second, arranging the flanges on one cylinder so that they will meet and lap past the flanges on the other cylinder, in machines so constructed that the said cylinders shall operate in combination with a stationary knife E, substantially as described.

No. 2,120.—JOHN P. HAYES, Philadelphia, Penn.—*Petroleum Burner for Cooking, &c.*—Patented September 26, 1865; reissued December 5, 1865.

Claim.—First, causing the gasified hydrocarbon used to be discharged in a downward direction from a generator, so that it will impinge directly against a plate or heating chamber beneath, substantially as and for the purposes described.

Second, in combination with the subject-matter of the preceding claim, the employment of any suitable strainer and diffuser *e'* of the hydrocarbon, at a point between the usual supply reservoir and the heating chamber C, or plate *c'*, as and for the purposes described.

No. 2,121.—JAMES HOTCHKISS, Springfield, Ohio.—*Brick Machine.*—Patented July 17, 1860; reissued December 5, 1865.

Claim.—First, a revolving spiral wing or wings, covering all or nearly all of the interior of the receptacle, substantially as herein set forth, in combination with a revolving mould wheel, for the purposes specified.

Second, in combination with a spiral wing or wings, covering nearly or all the space of the receptacle, an additional spiral wing or wings in the receptacle, either revolving in the same direction, or attached to an encircling shaft and revolving in the opposite direction, for the purpose herein set forth.

Third, the combination of the perforated followers with the covering of cloth upon the same, substantially as and for the purposes herein specified.

No. 2,122.—EZRA RIPLEY, Troy, N. Y.—*Teakettle.*—Patented January 1, 1861; reissued December 5, 1865.

Claim.—The employment of an improved and more convenient article of teakettle cover, substantially the same as herein fully described and shown, and attached to or combined with spouted and bailed metallic hollow ware, or tea kettles, in the manner and for the purpose substantially as herein described and set forth.

No. 2,123.—J. A. SAFFORD, Boston, Mass.—*Machine for Splitting Leather.*—Patented March 19, 1861; antedated November 19, 1860; reissued December 5, 1865.

Claim.—In a machine for splitting leather, having the narrow bed, stationary knife, feed roll, and gauge roll, disposed and co-operating in such manner as to adapt the machine to splitting leather, a provision for simultaneously raising and lowering the opposite ends of the gauge roll, substantially as described, to graduate the machine to the thickness of stock required.

Also, combining with the feed roll when held in position, to yield to the inequalities of the stock, the means for simultaneously effecting the depression of its opposite ends, substantially as set forth.

No. 2,124.—ORIN L. HOPSON and HEMAN P. BROOKS, Waterbury, Conn.—*Machine for Pointing Wire.*—Patented August 9, 1864; reissued December 12, 1865.

Claim.—First, a divided die, fitted and actuated substantially as specified, and operating by a series of compressions upon the article to be formed, to give to such article a smooth, round shape, corresponding to the shape of the dies, as set forth.

Second, the adjustable radial cams *k*, in combination with the jaw *d*, shaft *b*, and dies *i*, substantially as specified.

Third, a divided die, in which round or cylindrical articles of metal are compressed, in combination with a screw or equivalent device to regulate the opening of the die, and the consequent amount of each successive reduction, as set forth.

No. 2,125.—JOHN BACHELDOR, Norwich, Conn.—*Sewing Machine.*—Patented May 8, 1849; extended seven years; reissued September 22, 1863; again reissued December 12, 1865.

Claim.—First, in combination, the supporting bed which supports the material horizontally in the machine, and is provided with a throat for the passage of the needle, and the constant yielding pressure holder, each having the functions and mode of operation hereinbefore specified.

Second, in combination, the supporting bed, the constant yielding pressure holder, and the reciprocating eye-pointed needle, each having the functions and mode of operation hereinbefore specified.

Third, in combination, the supporting bed, the constant yielding pressure holder, and the reciprocating needle carrier, each having the functions and mode of operation hereinbefore specified.

Fourth, in combination, the supporting bed, the yielding pressure holder, the reciprocating eye-pointed needle, and the perpetual feed which moves the material horizontally under and past the needle while it is supported by the supporting bed, each having the functions and mode of operation hereinbefore specified.

Fifth, in combination, the supporting bed, the yielding pressure holder, the reciprocating needle carrier, and the perpetual feed which moves the material horizontally upon and over the supporting bed, each having the functions and mode of operation hereinbefore specified.

Sixth, in combination, the holding surface which supports the material immediately about the needle horizontally under the thrust of the needle, and the perpetual feed which moves the material horizontally under and past the needle upon and over such holding surface, each having the functions and mode of operation as hereinbefore specified.

Seventh, in combination, the holding surface which supports the material immediately about the needle horizontally under the thrust of the needle, the perpetual feed which moves the material horizontally under and past the needle upon and over such holding surface, and the receiving plate which receives the material from the feed during the operation of the machine in sewing a seam, each having the function and mode of operation hereinbefore specified.

Eighth, in combination, the horizontally holding surface immediately about the needle, the perpetual feed, the receiving plate, and the yielding pressure holder, each having the functions and mode of operation hereinbefore specified.

Ninth, in combination, the horizontally holding surface immediately about the needle, the perpetual feed, and the yielding pressure holder, each having the functions and mode of operation hereinbefore specified.

Tenth, in combination, the horizontally holding surface immediately about the needle, the perpetual feed, the yielding pressure holder, and a reciprocating eye-pointed needle, each having the functions and mode of operation hereinbefore specified.

Eleventh, in combination, the horizontally holding surface immediately about the needle, the perpetual feed, the yielding pressure holder, and the reciprocating needle carrier, each having the functions and mode of operation hereinbefore specified.

Twelfth, in combination, the receiving plate, and the perpetual feed, each having the functions and mode of operation hereinbefore specified.

Thirteenth, in combination, the horizontally holding surface immediately about the needle, the perpetual feed, and the reciprocating needle carrier, each having the functions and mode of operation hereinbefore specified.

Fourteenth, in combination, the perpetual feed, the receiving plate, and the yielding pressure holder, each having the functions and mode of operation hereinbefore specified.

No. 2,126.—ORLANDO V. FLOREY, Yellow Springs, Ohio.—*Vise for Carpenters' Use.*—Patented April 8, 1856; reissued December 19, 1865.

Claim.—The use of the ratchet brace G, operating in connection with the ratch H, sliding beam D, movable jaw C, and nut E, substantially in the manner herein set forth.

No. 2,127.—WARREN GALE and B. B. BELCHER, assignees of WARREN GALE, Chicopee Falls, Mass.—*Straw Cutter.*—Patented December 18, 1860; reissued May 30, 1865; again reissued December 19, 1865.

Claim.—First, the mouth-piece A, constructed and attached substantially as described and provided with a cutting edge *a*.

Second, the combination and arrangement of the mouth-piece A, constructed substantially as described and claimed, with the lever-knife F B, constructed and operating substantially as described.

Third, the step C, constructed and operating substantially as described, when used as a support for the chopping lever-knife F B, and its fastenings, for the purpose of obtaining angular adjustment.

Fourth, the combination and arrangement of the carrier C, and the flange of the pivot D, provided respectively with the longitudinal slot, and with the bolt hole *b*, and transverse slot *c*, for producing the adjustments desired, substantially as herein specified.

No. 2,128.—JONATHAN MAYHEW and THOMAS S. RAY, assignees of J. STUBER and F. FRANK, Buffalo, N. Y.—*Locomotive Lamp.*—Patented April 23, 1861; reissued December 19, 1865.

Claim.—First, in a kerosene or coal-oil lamp, constructed and used for a head light for locomotive engines, a perforated shell L, (or equivalent,) through which the air is strained before it reaches the flame, in combination with a cylindrical wick tube B G, and deflector N, for the purposes and substantially as described.

Second, an outside hollow cylinder J, (with or without the air tubes K,) in combination with a cylindrical wick tube B G, deflector N, and perforated shell L, for the purposes and substantially as described.

Third, the combination of the shield M with the perforated shell L, forming an air chamber L2 between them, substantially as described.

Fourth, admitting air through a perforated cylinder or shield J to the outside of the deflector and between the deflector and chimney, in a lamp having a cylindrical wick tube, and used for a head light for locomotive engines, substantially as set forth.

Fifth, the double perforated button P, in combination with a cylindrical wick tube, substantially as set forth.

Sixth, in a kerosene or coal-oil lamp for head lights for locomotive engines, having a cylindrical wick tube over which the wick is drawn, and having a cylinder outside of that which with the wick tube form an annular chamber, extending the chamber downwardly by means of the tube I, so as to make room for the full working of the rack bar within the oil chamber, substantially as described.

No. 2,129.—ARTHUR MAXWELL, assignee of IRA MERRILL, Shelburne Falls, Mass.—*Machine for Tunnelling and Quarrying.*—Patented April 22, 1856; reissued December 19, 1865.

Claim.—The cutting or forming of channels in rock by the use of chisels or cutting tools that have two combined movements, viz: a reciprocating movement to and from the rock, and a lateral movement in the line of the channel or channels to be cut, substantially as herein described.

Also, a stone-cutting channelling machine, which is constructed to be moved up to the rock and provided with reciprocating cutters, which are supported in standards arranged on the outside of the frame, substantially as described.

Also, the combination of two or more cutters in gangs, connected together by means of head and foot clamps, which are adapted to slide freely between standard guides that are supported on one side of the frame of the machine, substantially as described.

Also, making the chisels reversible on the frame, so as to cut two or more sets of channels without moving the machine, substantially as described.

Also, in combination with the backward and forward movement of the cutters, the advancing movement of the main frame to feed the chisels up to their work, substantially as described.

Also, securing the chisels together in gangs, by clasps or clamps, which hold them in proper working position and allow them to be removed at pleasure for repairing or redressing, substantially as described.

Also, the mechanism for giving the chisels or cutters their lateral motion in the line of the channels to be cut, it being composed substantially of the levers, links, and lifting bar, operated through a flexible cord or chain, substantially as described.

Also, the use or employment in stone channelling machines of chisels or cutting tools that have a series of straight paralliel or oblique edges, in combination with one or more reversed cutting edges, to remove any roughness from the sides of the channels, substantially as described.

No. 2,130.—ROBERT E. ROGERS and JAMES BLACK, Philadelphia, Penn.—*Steam Boiler.*—Patented January 19, 1864; reissued December 19, 1865.

Claim.—First, the body A of the boiler having tubes B and B′ so arranged that they will maintain a continuous circulation of water between the upper and lower portions of the boiler, when the whole, or very nearly the whole, of the boiler is suspended within a casing containing the fire chamber, and is exposed to the direct action of the products of combustion, as set forth.

Second, two or more sets of tubes B or B′, arranged on and attached to the body A of the boiler, as set forth and for the purpose set forth.

No. 2,131.—RODOLPHUS L. WEBB, New Britain, Conn.—*Knob Latch.*—Patented November 15, 1864; reissued December 19, 1865.

Claim.—The combination of the bolt *a*, yoke *f*, and spiral spring *e*, or its equivalent, when the latter is arranged so as to subserve the two functions before described, substantially as set forth.

No. 2,132.—WILLIAM L. WILLIAMS, New York, N. Y.—*Machine for Splitting Wood.*—Patented April 14, 1857; reissued December 19, 1865.

Claim.—First, the combination of the feeding chains, arranged as set forth, with the stationary conveying floor, for effecting the feeding up of the sticks in a fire-wood splitting machine, substantially as described herein.

Second, in a machine for splitting fire wood, the combination of a yielding lateral support to the wood, with diagonal knives, substantially as set forth, whereby the wood confined between said knives is allowed to move laterally as the knives enter the same, for the purposes set forth.

Third, communicating to said yielding lateral supports a positive motion, governed by the movement of the knives, substantially as and for the purposes specified.

Fourth, in a wood-splitting machine two separate knives, at an angle or diagonally to each other, and each extending across the feeding floor, so as to split up the wood in the manner specified.

No. 2,133.—IRWIN A. WILLIAMS, Utica, N. Y.—*Locomotive Lamp.*—Patented April 29, 1862; reissued December 19, 1865.

Claim.—First, the combination in a lamp of the following members, viz: the circular hollow wick tube, perforated air screen for the exterior current of air, and cap deflector, substantially as set forth.

Second, the combination in a lamp of the following members, viz: the circular hollow wick tube, perforated air screen for the exterior current of air, cap deflector, and lateral oil reservoir. substantially as set forth.

Third, the combination in a lamp of the following members, viz: the circular hollow wick tube, perforated air screen for the exterior current of air, cap deflector, and button, substantially as set forth.

Fourth, the combination in a lamp of the following members, viz: the circular hollow wick tube, perforated air screen for the exterior current of air, cap deflector, and thimble wick holder, substantially as set forth.

Fifth, the combination in a lamp of the following members, viz: the circular hollow wick tube, lateral oil reservoir, and perforated air screen for the current of air in the interior of the wick tube, substantially as set forth.

Sixth, the combination in a lamp of the following members, viz: the circular hollow wick tube, perforated air screen for the interior current of air, lateral oil reservoir, and cap deflectors, substantially as set forth.

Seventh, the combination in a lamp of the following members, viz: the circular hollow wick tube, cap deflector, perforated air screen for the interior current of air, and button, substantially as set forth.

Eighth, the combination in a lamp of the following members, viz: the circular hollow wick tube, cap deflector, lateral oil reservoir, perforated air screen for the interior current of air, and button, substantially as set forth.

Ninth, the combination in a lamp of the following members, viz: the circular hollow wick tube, cap deflector, and perforated air screens for both the exterior and interior currents of air, substantially as set forth.

Tenth, the combination in a lamp of the following members, viz: the circular hollow wick tube, cap deflector, perforated air screen for the exterior current of air, and close chimney gallery, substantially as set forth.

Eleventh, the combination in a lamp of the following members, viz: the circular hollow wick tube, thimble wick holder, cap deflector, button, perforated air screens for the exterior and interior currents of air, and lateral oil reservoir, substantially as set forth.

No. 2,134.—H. H. ABBE, Chatham, Conn.—*Door Bell.*—Patented July 11, 1865; reissued December 26, 1865.

Claim.—The employment or use in a door bell or gong of a lever or clapper stem, operated under the pull by a grooved slide, or other suitable mechanism, having a spring attached to it, whereby the lever or clapper stem, although operated after the pull by the spring, is not directly connected with the latter.

No. 2,135.—JOHN H. ALEXANDER and DAVID R. ALEXANDER, assignees by mesne assignments of JOHN GROSS, Decatur, Ill.—*Corn Planter.*—Patented June 6, 1865; reissued December 26, 1865.

Claim.—First, the employment or use of four seed holes *h* in seed plate K, from which the seeds are discharged consecutively, while the remaining holes are being filled or charged, substantially as and for the purpose described.

Second, the employment or use of circular intermittingly rotating plates N, provided with openings or holes *j j*, in combination with the vibrating seed plates K, substantially as and for the purpose specified.

Third, the vibrating bars O placed below or underneath the plates N, connected with the plates H, and receiving their motion therefrom, and provided with pawls *m* for the purpose of operating the plate N, as set forth.

Fourth, the circular gauges P placed underneath the plates N, as arranged substantially as shown, for graduating the capacity of the holes *h* in the plates K, as set forth.

Fifth, the arranging of the cut-offs or strikes *d* with springs or elastic rods N′, in the manner substantially as and for the purpose specified.

Sixth, the scrapers Q Q, at the outer ends of the arms R R, which are connected by rods *t* to treadles *u*, substantially as and for the purpose specified.

No. 2,136.—ALBERT W. HALE, New York, N. Y.—*Meat Mincer.*—Patented March 15, 1859; reissued December 26, 1865.

Claim.—First, the use and application of a flanged cylinder or cylinders having the grooves between such flanges tapering and diminishing in depth, substantially as set forth.

Second, the use and application of a cylinder or cylinders having spiral flanges, with grooves between them diminishing or tapering in depth, substantially as set forth.

Third, the combination of two cylinders with spiral flanges so arranged that the flanges of one cylinder overlap those of the other, so that the cylinder operated by the power or crank will give motion to and rotate the other without the interposition of other gearing.

Fourth, the combination of a cylinder or cylinders having spiral flanges or tapering grooves, with a shearing knife and a case having spiral ribs on its inner surface, substantially as set forth.

Fifth, the combination of two cylinders or conic frusta having straight or spiral flanges, or tapering grooves, with a knife or case, with or without spiral ribs.

Sixth, the combination of two cylinders having spiral flanges and tapering grooves, with a shearing knife and a case having spiral flanges.

No. 2,137.—GEORGE A. HOWE, Brooklyn, N. Y.—*Cotton Picker.*—Patented December 4' 1855; reissued December 26, 1865.

Claim.—First, in a hand cotton harvester, an endless toothed chain, with a rotary motion, to detach and gather the cotton boll from the bolt, substantially as described.

Second, the endless toothed chain or gatherer F in combination with an exterior case or frame A, or stripper H, and a bag or other receptacle R, constructed and arranged substantially as and for the purposes described.

No. 2,138.—GEORGE A. HOWE, Brooklyn, N. Y.—*Cotton Picker.*—Patented December 4, 1855; reissued December 26, 1865.

Claim.—A toothed chain, constructed substantially as herein described.

No. 2,139.—NORMAN C. STILES, Meriden, Conn.—*Punching Press.*—Patented January 26, 1864; reissued December 26, 1865.

Claim.—First, the compound eccentric D, consisting of an eccentric wrist pin *a*, adjustable disk *b*, and clamp *d*, or its equivalent, constructed and operated in the manner and for the purpose substantially as set forth.

Second, the V-shaped faces *g* on the slide E, in combination with the jaws G, cast solid with the stock A, and with the triangular gib *h*, all as and for the purpose specified.

Third, the touch-off device *k* H, arranged in combination with clutch pin *m*, substantially as shown and described, so that said clutch pin is thrown in either direction by the direct action of the cam.

Fourth, the loose clutch pin *m* applied in combination with the band wheel C and shaft B, in the manner and for the purpose substantially as specified.

Fifth, the button on the shaft B in combination with the spring catch *k*, clutch pin *m* and *n*, and cam H, arranged substantially as described, so that the cam is released automatically after the punch or cutter has completed its stroke.

Sixth, the yielding coupling pin *n* in combination with the clutch pin *m* and touch-off device K H, constructed and operating in the manner and for the purpose substantially as specified.

Seventh, the yielding fulcrum pin *j*, arranged in combination with the cam H, clutch pin *m*, and band wheel C, substantially as and for the purpose set forth.

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House documents

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